The Journal of the
American Medical Association

Vol. XXXII. CHICAGO, ILLINOIS, FEBRUARY 4, 1899. No. 5.

ORIGINAL ARTICLES.

TRACHOMA.

ORIGINAL INVESTIGATIONS ON ITS ETIOLOGIC ORGANISM. I. THE ORGANISM AS SEEN IN THE TISSUES AND SECRETIONS. II. AS SEEN IN THE CULTURES, III. SUCCESSFUL INOCULATION. IV. TOXINS AND ANTITOXINS.

Read before the Chicago Ophthalmological Society, Dec. 13, 1898.

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Statistics: showing the frequency, gravity and long continuance of trachoma.—Of 324 new patients received as house cases at the Illinois Eye and Ear Infirmary from June 1, 1898, to Nov. 1, 1898, 123, or about 38 per cent. were cases of trachoma. Other patients come and go, but trachoma patients stay on interminably, so that of 41 patients now under my observation, 23, or 56 per cent., are cases of trachoma. Trachoma can never be called cured. The lids may become perfectly smooth, and the disease seem apparently mastered, but in the course of a few weeks or months the patient will return with a trachoma which has all the characteristics of an acute disease.

Of 50 cases of trachoma, in which I made careful records, 38 were cases where the disease had endured over two years, 13 where the disease had lasted more than five years, 7 where it had lasted more than ten years, and in one case it had lasted thirty-eight years. Of the 38 cases which had lasted more than two years, there were only four which had had no corneal involvement; of these, one was employed about the hospital, and consequently had been under constant medical care, while in another case it was very doubtful whether the disease was trachoma or not. In no case where the cornea has once become involved, either through ulceration or pannus, does the patient regain normal acuity of vision. In my series of 50 cases the average acuity of vision was 2/7, though this does not allow for refractive errors.

Between the dates of June 1, 1898, and Nov. 1, 1898, 122 patients were operated upon at the Infirmary; of these operations 41, or 34 per cent., were necessitated by trachoma. The figures do not include scarifications.

A patient who has once had trachoma is more or less unfitted for the active duties of life. Exposure to dust, heat, or bright light, residence in a malarial district, unhygienic surroundings, negligence in the use of the proper medicines, may bring on an acute exacerbation of the disease at any moment. In view of such facts as these, and with the present facilities for research at our command, when also we consider the vast amount of material which our dispensaries and eye clinics furnish, it strikes one as almost incongruous that the disease is so little understood, and our methods of attacking it, in consequence, so empiric.

Literature of trachoma.—Since the days when bacteriology became a science, trachoma has been regarded as a bacteriologic disease. Any one watching the phases of the disease, its acute onset, its localization in isolated follicles, which seem to act as centers or foci of the disease, the softening and degeneration of these follicles, the development of cicatricial tissue, which seems to act as a bar to its further progress, the gradual decline, the recurring exacerbations, recognizes that all these point strongly to some insidious micro-organism at work in the tissues, which it is possible to control a while, but which, when a favorable opportunity presents itself, acquires new life and activity. Sattler[1] was the first who investigated the micro-organism of trachoma, and announced his discoveries at the Thirteenth Assembly of the Ophthalmological Society, at Heidelberg. In examining the secretions at different stages of the disease, he found a micrococcus which resembled the gonococcus. The cocci were of biscuit shape, joined in pairs, but separated from each other by an intervening space. They were most frequently seen in groups of two, three and four, at times in clumps. In stains and sections, they could be seen as dark dots. He employed liquid culture-media in the beginning, later solid ones, mainly blood serum, in which the trachoma cocci grew well, but not invariably. At the point of inoculation he was able in seven or eight days to discover pale yellow spots, which developed slowly. On microscopic examination, the organisms in the culture were found to be identical with those of the secretion. The inoculation of animals was negative, but one on the human conjunctiva produced the disease.

If the Egyptian disease and trachoma are identical, we must consider the work done by Koch[2] in Egypt. He judged two etiologic factors to be at work: one a diplococcus, identical with gonococcus, causing a grave type of the disease; another, a tiny bacillus which caused a less severe type of the trouble. Da Gama Pinto[3] was unable to find micro-organisms in sections of the diseased conjunctiva, and in consequence doubted the correctness of the findings of the preceding investigators.

Michel[4] studied the disease during an epidemic at the Aschaffenburger Waisenhaus, where there were 97 boys; of those who contracted the trouble, 55 had a mild type of the disease, 14 a grave one. He studied the conjunctival sections in 30 cases, with negative results, but subsequently, in studying some of these cases from the Aschaffenburger Waisenhaus at the Wurzburger clinic, he found a few cocci in the secretions.

In making sections of conjunctival tissue, Michel found cocci in the follicular contents, never in the epithelium. The work proved very difficult, on account of the minute size of the micro-organisms, and also on account of their scarcity. For the most part, he found them in irregular clumps; at times in rows of ten or twenty. He never found them within cells, but above or between them.

For his cultures, Michel used both conjunctival secretion and the contents of the trachoma nodules, which he either expressed or cut out. Cultures were only made in seven cases, and developed best from the expressed contents of the nodule. In several cases there was no growth. In one case the culture was contaminated by staphylococcus pyogenes aureus. In the successful inoculations on agar there developed after two days an even grayish-white thread-forming growth. On gelatin, at room temperature, there developed a grayish-white, thick layer, which grew rapidly on the surface, but along the stab and at its lower end developed small globules. At the end of four or five weeks a funnel-shaped growth had developed. The gelatin was not liquefied. On blood serum there appeared at the end of twenty-four hours a pale, even streak, which assumed a milk-like hue; at its periphery club-like prolongations appeared, which later assumed a ragged appearance. The pure cultures consisted of small diplococci, which resembled gonococci, but were smaller; their length from one pole to another was .6 to .8 μ.; width .4 to .6 μ. Inoculations on animals were negative, but an inoculation of the human conjunctiva caused the disease.

Schmidt[5] found in the secretions small, round, isolated cocci, surrounded by a clear gelatinous area, and resembling staphylococcus pyogenes aureus. In the sections he found different forms. By staining sections according to Gram's method he found in the tissues round, point-like cocci. For cultures he used the secretion, and in forty-nine cases found a coccus resembling staphylococcus pyogenes aureus, though differing from it in size, motility and action toward gelatin. He claims to have caused the disease in birds.

Kukharski[6] investigated twenty-six cases of trachoma and found numerous bacteria, among which were staphylococcus pyogenes, bacillus subtilis and bacillus mesentericus vulgatus. When these accidental organisms were excluded, his cultures showed one characteristic organism, of the size and shape of the gonococcus and possessed of a springing motion. He arrived at the following conclusions:

1. The etiologic factor of the disease is a bacillus which in some way becomes a coccus.
2. Michel's organism, which resembles a gonococcus, presents no characteristic feature.
3. The organism, in growing on solids, presents a white thread-like membrane consisting of confluent spots.
4. It liquefies gelatin; on the surface a white thread-like membrane forms.
5. The culture may be confused with staphylococcus pyogenes albus and other micro-organisms occurring in the air.
6. Inoculations from culture produced no effect.
7. Inoculation in the eye of a cat with the trachoma nodule itself caused the disease.

Goldschmidt's[7] findings coincide with those of Michel. Washejewski[8] studied thirty cases of trachoma in different stages. He found single cocci and groups of cocci in the lymphoid cells, red-blood corpuscles and epithelial cells. The cocci resembled gonococci. Baumgarten[9] could not see that the specific organism of trachoma differed in any respect from staphylococcus pyogenes aureus. Staderini[10] found similar cocci, as also did Schmidt-Rimpler. Wiltrams'[11] results were for the most part negative. He found various cocci and bacilli, and decided that thus far no one had proven anything definite. His conclusions were:

1. Various organisms are found.
2. In follicles are micrococci which are seen with difficulty.
3. Different authors describe different cultures, whose pathogenic characteristics at best are doubtful.
4. Most observers employed contaminated secretions.
5. The follicle itself should have been employed.

Schongolowicz[12] paid special attention to staining the organisms within the tissues. He used the Gram-Weigert and also the Koch methods, and succeeded in staining the organisms by both means. He found within the tissues bacilli 1 to 2 μ. long, .3 to .5 μ. wide. His cultures in three or four days disclosed on the surface of the culture-media round and oval colonies of granular structure. His bacillus displayed fairly rapid motion. It grew slowly on serum and rapidly on agar. Inoculations under the skin of two white mice, one guinea-pig and one rabbit gave no result. Inoculations of pure cultures on the conjunctiva of various animals produced not trachoma, but a somewhat similar disease. Alt[13] finds round or oval cells containing one, two, three and four eccentrically situated round bodies which look like nucleoli. He thinks that in these bodies we have the organism causing trachoma. He was unable to find the organisms described by Sattler or Koch. Elze,[14] observing that trachoma and malaria seem to thrive under similar conditions, and also observing some amelioration of the disease where quinin was given, judged that similar causes bring about the two conditions. He claims to have found in the secretions and nodules certain peculiar organisms which he judged to be monads and which he called "plasmodia."

As can readily be seen, the literature on this subject affords small help to one desiring to investigate the subject for himself, and still, in one respect there seems to be some unanimity of opinion, i. e., in regard to the presence of micro-organisms within the trachoma nodule. This side of the question also appeals to one from a clinical standpoint. What are these enlarged trachoma nodules? Simply enlarged lymphatics of the conjunctiva. Why are they enlarged? For the same reason, in all probability, that any lymphatic gland enlarges: they are filtering from the deeper tissues such noxious agents as are producing the disturbance, and if these agents are bacteria of any kind, here, in all probability, they are to be found. I therefore decided to start my investigations with the trachoma nodule itself, to subject it to the various methods of staining bacteria within tissues and see whether or not the micro-organisms could be found within that nodule. I employed the two well-known methods for staining bacteria in tissue: 1, staining with Loeffler's methylene-blue and decolorizing with acetic acid, 1 to 1000; 2, the Gram-Weigert method. Inasmuch as I slightly modified this latter method, it may be well to give briefly the different steps of the process: After anesthetizing the conjunctiva with a 4 per cent. cocain solution, the nodule is grasped with a small mouse-toothed forceps and snipped off with a sharp-pointed pair of scissors. Then it is: 1, placed in absolute alcohol six hours; 2, in xylol six to twelve hours; 3, infiltrated in paraffin; 4, imbedded in paraffin; 5, the section is cut. (The section must be very thin. I should call a section thicker than 1/150 millimeter worthless.) It is then placed: 6, in xylol; 7,

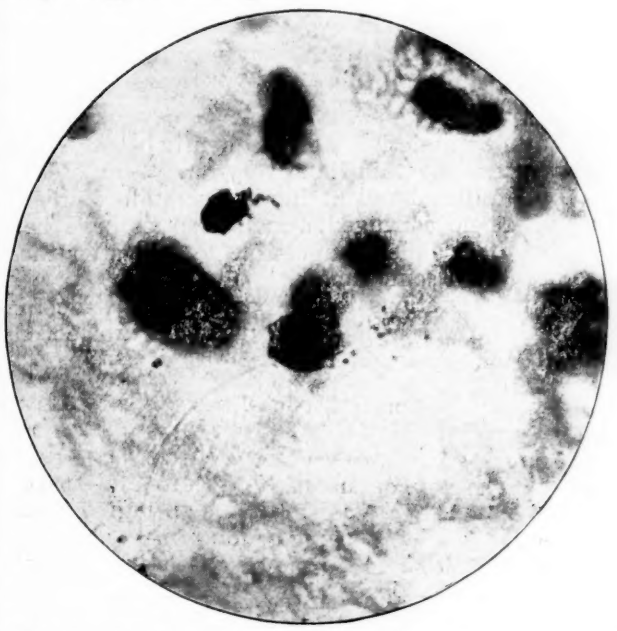
in alcohol; 8, in distilled water; 9, in Orth's lithium carmine twenty-four hours. (The lithium carmine must be well ripened; one must also remember not to fasten the section to the cover-glass with albumin fixative, as the lithium carmine does not stain well where albumin has been used.) Then it is: 10, washed in distilled water; 11, in anilin gentian violet fifteen minutes. (The anilin gentian violet should be freshly made each time. This is conveniently done as follows: a saturated alcoholic solution of gentian violet is kept on hand; in another bottle is kept a 5 per cent. solution of anilin water. Into a small dish 5 drops of anilin water are filtered through filter paper and into this 1 drop of gentian violet is dropped.) Finally, it is: 12, washed in normal salt solution; 13, dried and placed in Lugol's solution one minute; 14, in distilled water; 15, dried and decolorized with anilin oil till all violet color disappears and section looks red; 16, in xylol; 17, in Canada balsam.

When the Loeffler blue stain is used, tissues should appear perfectly colorless, while the bacteria stand out well stained. When the Gram-Weigert method is used, Orth's lithium carmine being employed as a counterstain, a beautiful picture presents itself when the section is placed under the microscope; the tissues are colored a brilliant red, in which the organisms are seen stained a deep violet.

In all, I prepared fifteen different sections according to these two methods. In every case I found within the nodule, organisms which presented striking morphologic characteristics. These organisms were present in greatest numbers in the loose adenoid tissue of the mucous membrane. They were commonly seen in small groups, usually in the intercellular spaces, though I have observed them in the leucocytes, in the protoplasm of the epithelial cells, and at times, in the blood-vessels of the nodule. The organism had a capsule, that I could say with certainty, but whether it was a capsulated diplococcus or a tiny capsulated bacillus with heavily staining ends I was not able to state with any degree of certainty, nor were a number of other observers. Its size could be accurately determined. It varied from 1.5 to 2 μ. in length, from .5 to .6 μ. in width. The organism was not decolorized by the Gram method of staining. I call special attention to this fact. When we remember that, with but very few exceptions, such as gonococcus, typhoid bacillus and a very few others, no pathogenic organisms are decolorized by Gram's method, while practically all non-pathogenic organisms are decolorized, the fact that this organism within the tissues was not decolorized seemed to me of great importance. In the meantime, I had prepared and examined according to the same methods four sections of hypertrophied conjunctiva taken from the upper cul-de-sac; in none of these sections could I find micro-organisms. This seemed to me to indicate quite clearly that the organisms were localized in the nodule.

I next tried to stain the organisms with carbol fuchsin, decolorizing with 10 per cent. sulphuric acid, but when this method was used no bacteria could be found. In three cases I slightly modified my modus operandi. Instead of cutting out the nodule and treating it as a tissue to be fixed, hardened, infiltrated and cut, I squeezed out the contents of the nodules, smeared them on a cover-glass, fixed them in the flame and treated them as smear preparations. In this manner one can study the micro-organisms to very good advantage, and often obtain a far better definition than it is possible to obtain when the organisms, are within the tissue. My findings in these last three cases corresponded with those previously described.

I now made a study of the secretions in thirteen cases. My results in these cases were rather unsatisfactory; in nine cases I failed to find the characteristic organism at all. In two cases I found it, but only in scanty numbers and after long search; in two cases it was found easily. One of these cases was one which I had myself inoculated, the other was a recent case, in neither of these two had astringents or antiseptics been used on the conjunctiva. In most of these thirteen cases adventitious organisms were present; not in the quantitity one would expect where diseased tissue is exposed to the air, although in one case I found four distinct varieties of micro-organisms present. It is of interest to note that in four cases cocci were found which were decolorized by the Gram method of staining. In one respect the study of the secretions proved of great benefit, for I was now able to decide definitely and with positiveness as to the morphology of the organism.



The bacteria seen in the tissues, in the smear, and now in the secretions, were tiny, round, capsulated diplococci; at times it was still almost impossible to decide whether a particular organism was a very small bacillus with heavily staining ends or a tiny diplococcus, but in some preparations and especially those stained by the Gram method, it was possible to decide beyond the peradventure of a doubt as to the morphology of the organism with which we had to deal. These diplococci were surrounded by a clear, gelatinous capsule, which at times was remarkably clear and well-marked, at times almost impossible to perceive; the individual cocci were separated by a septum of the same kind, the septum, however, seemed often to have an affinity for anilin stains, especially Loeffler or Klebs methylene blue, while the capsule did not; the capsule could be especially well seen where the diplococci were turned on end, so that only one coccus could be seen surrounded by its gelatinous envelope. In many respects this organism was a miniature pneumococcus. It was of course much smaller than the pneumococcus and there was no lance shape present,

the elongation, if any, being in the opposite axis to that of the pneumococcus; still we must remember that pneumococci, and especially the younger forms, are very frequently round and not lance-shaped.

It may now be well to briefly review and tabulate the results of my studies of sections, smears, and secretions.

1. I found within the trachoma nodule in fifteen cases an organism varying in length from 1.5 to 2 μ., and in width from .5 to .6 μ.

2. This organism was enveloped in a gelatinous capsule.

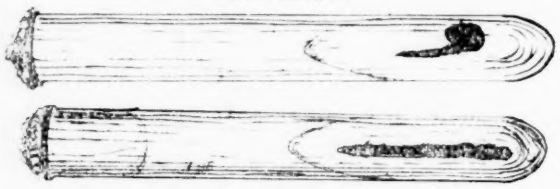
3. No other organism could be found within the tissues.

4. This organism was stained by the Gram method.

5. While seen only within the tissues or in smears, it was impossible to positively say whether this organ was a diplococcus or a small bacillus.

6. The organism was usually found in the adenoid

Growth on agar.



Growth on serum.

layer of the conjunctiva, most frequently between cells, though at times within them, very rarely in vessels.

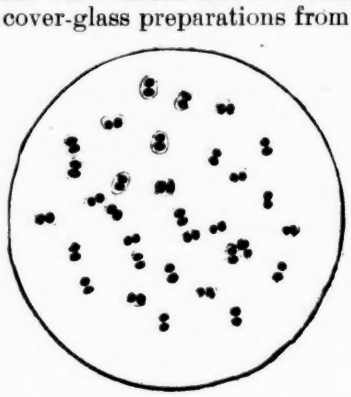
7. It is quite abundant in the secretion of recent cases where no astringents or antiseptics have been used, but it is almost impossible to find after these have been used some time.

8. In the secretions it was possible to decide that the organism was a dot-like, capsulated diplococcus.

Agar culture, three days. Showing form of staphylococcus (without capsule). Stained by Gram's method.

The next task was to get a pure culture of the organism. This, with the data already in my possession, would, I thought, be a comparatively easy affair. It was a capsulated diplococcus, staining by Gram; these three facts alone almost isolated the organism. For my cultures I determined to again rely on the nodule. The conjunctival sac was well irrigated with a saturated solution of boric acid and then anesthetized with a sterilized 4 per cent. cocain solution. A small mouse-toothed forceps and sharp-pointed pair of scissors were next carefully sterilized, as was also a platinum loop. The lid was everted by an assistant, the nodule grasped with the forceps and snipped off; it was then crushed between the teeth of the forceps, laid on the platinum loop, and placed on the culture medium. By observing these precautions I was very successful in obtaining pure cultures, these being contaminated in only two cases.

My first inoculations were made on agar—2 per cent. glycerin agar and dog's serum. Of the first seven tubes inoculated, I obtained cultures in only two cases; one was a large bacillus decolorized by Gram's method, and the other consisted of clusters of cocci, stained by Gram's method. As was natural, when I saw the grape-like clusters of cocci not decolorized by Gram's method, I immediately thought I had to deal with some form of staphylococcus, which had in some manner gotten into the culture-tube. Somewhat disappointed at my lack of success with solid culture media, observing the same precautions as before, I inoculated seven tubes containing bouillon, taking the precaution of having the tubes warm at the time of inoculation and immediately placing them in the incubator. At the end of forty-eight hours two of these bouillon tubes were turbid and five remained clear. On making cover-glass preparations from the two turbid tubes I found that in one was contained a mixed culture consisting of staphylococci and a tiny diplococcus surrounded by a clear, gelatinous envelope, which seemed in every way identic with the organism observed within the tissues and in the secretions; in the other tube I found a pure culture of this same diplococcus. From this pure culture, observing the greatest precautions so as not to contaminate my cultures, I inoculated one tube of agar, one of glycerin agar, one of dog's serum and one of gelatin. All these, with the exception of the gelatin tube, I placed in the incubator, and at the end of forty-eight hours found growths in all of them. I first made a cover-glass preparation from the growth on agar, and on placing it under the microscope was chagrined to find an organism which seemed to differ in no wise from an ordinary staphylococcus. Evidently I had contaminated my culture in changing from the bouillon



DIAGRAMATIC

Bouillon culture, three days. Stained by Gram.

Secretion from case inoculated with trachoma. 1. Polynuclear leucocyte. 2. Transitional leucocyte. 3. Transitional leucocyte with diplococcus in cell protoplasm. 4. Epithelial cell with diplococcus in cell protoplasm.

to the agar. I next examined the growth on serum; at the first glance this, too, seemed staphylococcus, but on closer examination many of the cocci seemed to form pairs and some seemed to have a capsule. A cover-glass preparation was then made from the bouillon tube which had been inoculated from the original bouillon culture. It contained diplococci, although they seemed a trifle larger than the diplococci observed in the tissues and in the first bouillon culture, and the capsule also seemed less well marked. In some places they showed a tendency to form small bunches or clusters, in others to form chains of three or four, although these clusters or chains were always seen to be made up of diplococci. I now began to doubt whether the growths which I had observed on the agar and serum were after all ordinary staphylococci, especially as the macroscopic appearance of these growths was highly characteristic and differed from that of any ordinary staphylococcus; so I again inoculated bouillon tubes from these agar and serum tubes and the new growths in bouillon showed all the characteristic features of the mother bouillon culture, with the exception perhaps that the cocci seemed to have grown larger, and the capsule to have almost disappeared. Here then was a discovery, and one which explained the mistakes of many preceding investigators. The organism was modified in size and form by the character of the culture media; on solid culture media it simulated an ordinary staphylococcus, in bouillon it retained its characteristic morphology, and in the mother culture was of about the same size as when observed in the tissues, and had its capsule well marked, but on reinoculation in bouillon it became larger and lost its capsule. It was possible, however, even on the solid culture media, on careful observation, to observe that though the cocci were bunched like staphylococci, still these bunches were composed, not of groups of isolated cocci, but of bunches of diplococci. Whether this agglutination on solid media was due to the adherence of diplococci with each other or simply an agglutination caused by the medium itself I can not say.

I now inoculated a bouillon tube from the growth which I had obtained, we remember, on agar, in my first series of inoculations, and which I had judged to be staphylococci. The same thing again occurred; on making a cover-glass preparation I found only diplococci, some of them capsulated. My gelatin, in the meantime, had become very slowly liquefied on the surface by my growth, and here the organism was seen in an intermediate form, in some places showing the appearance of staphylococci, in others of diplococci. I now inoculated another series of ten bouillon tubes with trachoma nodules and in two more cases obtained pure cultures of the original tiny diplococcus.

I was now ready to inoculate animals. My first experiments were tried on a rabbit, a guinea-pig and a dove. The method employed was the following: Wrapping a small cotton swab tightly around the end of a probe, and placing some of the pure culture on the cotton, I massaged the conjunctiva till the cotton was tinged red. After the reaction caused by this massage had subsided there was nothing in the condition of any of these animals to indicate in the slightest degree that my inoculation was successful. At the end of two weeks any impartial observer would have pronounced the conjunctiva in the three cases normal. I next tried a rabbit which had been previously used for operative purposes and in each of whose eyes a conjunctivitis existed at the time of inoculation. Here, at the end of a few weeks, I got a condition which somewhat resembled trachoma, but I must confess it had but little the appearance of a frank, acute trachoma, such as one sees on the human conjunctiva. It is true there were, and still are, isolated, enlarged, somewhat gelatinous-looking follicles, with some conjunctivitis, but there is none of that diffuse purplish hue, that velvety thickening of the mucous membrane, abundant secretion, roughening of the lids with enlarged follicles studding the palpebral conjunctiva, especially at the transitional fold, that one sees in an acute trachoma. I remember that, about a year ago, in experimenting on the conjunctiva of a rabbit, with a pure culture of streptococcus, I produced a conjunctivitis which in many respects resembled a trachomatous one. When we remember that one of the chief symptoms of trachoma is a miliary lymphadenitis due to the involvement of many tiny lymph-glands scattered about in the conjunctiva, it seems a very natural thing that any organism which will cause an involvement of these minute glands will simulate one of the chief symptoms of trachoma, although the disease may not be trachoma at all. In view of these facts, and also in view of the fact that I was unable to obtain the characteristic organism again in culture from these nodules on the rabbit's conjunctiva, I shall call my experiments on animals negative, although I still have this rabbit under observation and shall make other attempts to find the diplococcus in the nodules.

It was now my good fortune to obtain a human subject. An old woman, aged 68, blind in both eyes as the result of an explosion, and with a phthisis bulbi of the left eye, on being told that the experiment could in no wise injure her general health or condition, was induced, by the payment of a sum of money, to allow herself to be inoculated with the pure culture. I employed for this purpose a growth on agar, which had been inoculated from a mother culture of bouillon. At first I merely placed the germs in the conjunctival sac with a platinum needle. At the end of one week no reaction whatever had followed. I next employed the same method that I had used with animals. After cocainizing the conjunctiva, I rubbed in the organisms till the cotton was slightly tinged. This time I was successful. For the first week the condition was one of simple conjunctivitis; there was redness, hypersecretion and a slight burning sensation. At the end of one week the picture changed slightly and the condition was rather that of a follicular conjunctivitis; the conjunctiva of both lids was of a deep red, the secretion had become more abundant, and on inspecting the mucous membrane with a convex lens, tiny, isolated, enlarged follicles began to appear. At the end of the second week the conjunctiva had become a deep, purplish red, was slightly hypertrophied and the enlarged follicles especially at the lower and inner border of the tarsal cartilage, had become more marked, and bunches of tiny vessels could be seen running to some of them. The case now presented that doubtful aspect which so frequently puzzles the oculist to tell whether the case is one of trachoma or merely a follicular affair. On the thirteenth day I found in the secretions a very small diplococcus, surrounded by a gelatinous capsule and stained by the Gram method; this organism was identic with the organism seen in the tissues and on the culture media. On the nineteenth day I inocu-

lated several bouillon tubes with the secretion and obtained this organism in a mixed culture. At the end of the third week, while the picture was by no means absolutely characteristic of trachoma, still if the patient had applied for admittance into the Eye and Ear Infirmary I should without hesitation have isolated her in the trachoma ward. At the end of four weeks I squeezed out one of the small follicles, smeared the contents on a cover-glass and found the organism in the smear. At the end of five weeks the diagnosis of trachoma could be made by the most impartial observer beyond a doubt. At the end of six weeks the appearance had become so characteristic, and there were so many of the diplococci present in the discharge, that fearing for the safety of the other members of the household, I began to treat the lids with strong solutions of silver.

I had now found the organism in the tissues and secretions, had obtained it in pure cultures on various culture media, had produced the disease on the human conjunctiva and once more recovered the organism. I will now for the sake of accuracy briefly tabulate and recapitulate all my findings in regard to this organism:

Origin.—Unknown; seems to occur most frequently in malarial districts.

Form.—Round diplococci, which in the tissues and first bouillon culture are enveloped in a gelatinous capsule. In the tissues they lie in small groups, each organism separate from the others. In bouillon they usually are seen as isolated diplococci, at times they are seen in small clusters or short chains, though the clusters and chains are always composed of diplococci. Often the diplococcus is seen turned on end, so that only a single coccus appears; in this position it is possible to see the capsule especially well marked. On solid culture media they simulate staphylococci, on gelatin they show an intermediate form.

Motility.—In the hanging drop the organisms exhibit a slight degree of motility.

Vitality.—Cultures die in bouillon in about two weeks; on agar they live for months.

Anilin stains.—Organism stains well with ordinary anilin stains; also by Gram method. Capsule does not stain, but septum between cocci seems at times to have an affinity for stains, especially for methylene blue, causing the organism often to resemble a bacillus.

Growth.—Grows rapidly in incubator, more slowly at room temperature. Bouillon becomes turbid in thirty-six hours. Abundant growth on serum in forty-eight hours. Grows somewhat slowly on agar, especially at room temperature. *On serum:* White, moist, membranous-like streak with a scalloped edge along line of inoculation. Edge is white, the center yellowish. *On agar:* Resembles somewhat the growth on serum; the edge exhibits the same scalloping. The growth on agar is more raised than that on serum. The difference in color between the center and the borders of the growth is even more marked; the center is distinctly yellow, while the borders are milk white. *In bouillon:* At the end of ten days, white, sand-like deposit settles at bottom of tube. *In gelatin:* Growth somewhat funnel-shaped. White, wavy, thread-like growth along the stab, consisting of small, agglutinated globules. Grows somewhat heavier toward the surface, and on the surface forms a white membranous growth which shows the same peculiar scalloping of the edges, as the growth on serum. The gelatin liquefies very slowly on the surface, but not along the stab.

Oxygen requirements.—Facultative aërobic.

Odor.—After developing one week, on any of the culture media, and especially in bouillon culture, it has a pronounced urinous odor, which, as time goes on, becomes very offensive.

We have now described a capsulated diplococcus not decolorized by the Gram method. It immediately becomes necessary to differentiate it from the only other diplococcus to which this description could apply, i. e., the pneumococcus. This is easily done. The trachoma diplococcus is smaller, has a slight degree of motility, a characteristic appearance on culture media which differs most decidedly from pneumococcus, and a very different pathogenesis.

I shall now compare my findings with those of other men who have investigated this subject, and especially of those whose results have in any measure coincided with my own.

Sattler, we remember, found biscuit-shaped cocci, which he compared to gonococci. Morphologically there is at times a great resemblance between the two organisms, but here all resemblance ceases, and the comparison for this reason was an unfortunate one. Morphology in bacteriology is a notoriously uncertain thing. A capsulated, dot-like diplococcus, staining by Gram's method, has very little real resemblance to gonococcus. Sattler relied too much on secretions. I found them far more apt to contain adventitious organisms than the one in question. Kukharski's criticism of Michel's work, when he says that Michel's organism presents no characteristic feature, applies even more justly to Sattler. Sattler failed entirely to characterize and individualize the organism he saw. He did not identify it, so that it must needs be the trachoma organism and nothing else.

Koch thought the disease a mixed infection. It is easy to understand how this came about; in all probability he saw the trachoma diplococcus. He saw it when it could not be differentiated from a tiny bacillus; again, he saw it when the diplococcus form could be plainly perceived, and consequently judged the disease a mixed infection.

Michel undoubtedly saw the trachoma diplococcus; from his descriptions of it, we can not doubt that fact, but Kukharski's criticism is just and well founded when he says Michel failed to characterize this organism; he also failed to describe the change of morphology on different culture media, a fact easily explained when we remember that he only inoculated seven tubes in all, and in a number of these tubes did not obtain growths.

Schmidt first mentions the capsule. He describes an organism resembling staphylococcus pyogenes aureus, which is surrounded by a clear, gelatinous area. In all likelihood he noticed the yellowish color of the organism on solid culture media; on examining it, found a staphylococcus form, and naturally judged the organism to be the staphylococcus pyogenes aureus.

Baumgarten also describes it as a staphylococcus, having in all probability seen the same form as Schmidt.

Kukharski found a bacillus which somehow became a coccus. He made the same mistake as Koch, only instead of calling the disease a mixed infection, his bacillus somehow became a diplococcus.

Schongolowicz undoubtedly saw the organisms in the tissue; his description of them as seen here is accurate; before I had seen the organisms in the secre-

tions and cultures I leaned toward his view, but from the description of his cultures I doubt very much whether he ever obtained a pure culture of the trachoma diplococcus.

Now, to recapitulate for the last time: The organism of trachoma is a tiny, capsulated diplococcus which is present in the trachoma nodule, which is at times, though not frequently, present in the secretions. It changes its form on different culture media and also its size. It is obtained in cultures with great difficulty, it being necessary, on an average, to inoculate nine bouillon tubes before a culture is obtained; it dies in liquid culture media in about two weeks, but lives for months on solid media.

Clinical significance of this work.—In the early stages of trachoma, and frequently even after the lapse of some time, it is often impossible by means of the methods now employed to state with certainty whether the case before us is one of that disease or not. Can a diagnosis be made with absolute positiveness? Unquestionably yes. If one can find within the secretions or in the contents of the expressed follicles an organism such as I have described, he may with absolute certainty call the disease trachoma; furthermore, he must use every precaution to prevent the patient from infecting others, for that organism, under favorable circumstances, will certainly cause the disease in others, no matter how mild a form of the disease the patient himself may exhibit. Is this method of diagnosis sufficiently reliable—can the organism be found in enough cases to render it valuable? Again, undoubtedly yes. Where one suspects trachoma there are almost invariably enlarged follicles. Squeeze out one of these follicles, smear its contents on a coverglass, fix them in the flame, stain them by Gram's method, and if a capsulated diplococcus is present the case is undoubtedly trachoma; if it is not present the case is in all probability not trachoma.

In my series of fifty cases of trachoma, in only seventeen cases were members of the patient's family afflicted with the disease. In cases where one of a married couple had contracted the disease the other in nine cases escaped. This seems very strange, when we remember how notoriously infectious trachoma is, and how it has been known to run through camps and institutions like wild fire. There are, in the light of these investigations, several reasons for this. Where antiseptics are used the secretions soon become harmless, and may often with impunity be inoculated into other eyes; then again, the organism is very difficult to cultivate; if the soil is not favorable it soon dies. When I inoculated the human conjunctiva it was necessary to massage it into the conjunctiva; merely placing it in the sac proved of no avail. Undoubtedly the conjunctivæ of debilitated individuals, especially of such as have suffered from malaria, afford a more favorable site for growth than those of healthy people, and undoubtedly where the disease spreads rapidly it is among the former class, and from the secretions of those who have not been treated with antiseptics.

What is the period of incubation of trachoma? This is difficult to answer, even when one has watched the disease develop from day to day. The symptoms caused by the micro-organisms are certainly well marked by the end of the first week. By the end of the fifth week a diagnosis may be made from the aspect of the case.

I had now found the organism of trachoma in the tissues and secretions, had obtained it in pure culture, had produced the disease and again obtained the diplococcus. One task remained unfinished, and that by far the most practical and important of all, i. e., the study of the toxins and antitoxins. A description of my work on this subject I reserve for a future paper; suffice it now to state that I inoculated ½ liter of bouillon with a pure culture of the diplococcus, and allowed it to develop for ten days; this bouillon was then filtered through a Kitasato filter. This filtrate, injected into animals and human beings, causes local pain, redness and edema with a marked temperature reaction; 4½ c.c. of this filtrate injected into the flank kills a guinea pig weighing 300 grams. If a guinea pig is treated with increasing doses of this filtrate, as fast as the temperature from the previous injection has subsided, it may receive twice the lethal dose without showing other symptoms than a temperature reaction. These facts lead me to hope that an efficient trachoma antitoxin may be found. If the action of antitoxin is, as recent investigations tend to prove, a chemic and not not a biologic one, then surely a local disease like trachoma is an ideal one for the application of antitoxin.

I wish here to thank Dr. F. R. Zeit for the valuable advice and assistance which he has rendered me in the prosecution of this work.

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DISCUSSION.

Dr. GRADLE—The Doctor's work undoubtedly represents a great deal of painstaking labor, but claims of having discovered the micobe of trachoma have been put forth by others, and have never received full recognition. There can be no doubt, from a modern point of view, that trachoma is a disease due to some parasite, and the fact that so many competent observers have hitherto failed to detect the characteristic microbe should caution us against having too fervid faith in any statements.

Dr. HALE—One can hardly look at the literature without finding the enthusiasm of one day dispelled by the skepticism of the next. This is not in any sense a criticism of the writer's work, but I mention it to show that skepticism is not ill-founded. It is to be hoped that Dr. Snydacker has reached a true method and has isolated the bacterium of trachoma.

Dr. GRADLE.—If I may be allowed, I will lead the discussion into another path, in which perhaps more of the members can participate on the basis of personal experience, although it is somewhat beyond the scope of Dr. Snydacker's paper, viz., the clinical aspects of the difference between trachoma and follicular catarrh. First of all, we must clearly recognize the existence of follicles independent of trachoma. If Dr. Snydacker can verify his claim that the microbe which he has described is characteristic of trachoma, its presence would settle the diagnosis definitely in any given case. Whenever such a microbe is present, we would necessarily have to call the disease trachoma, no matter how it appears clinically, exactly as we call a disease tubercular if the tubercle bacilli is present, no matter how different its appearances may be to the naked eye or under the microscope. But we have not yet arrived at that stage of certainty, and clinically, however, enlarged follicles can be found in a variety of conditions which have nothing to do with trachoma. First of all, in a large number of school

children we will find enlarged follicles in the lower retrotarsal fold, to a less extent on the upper lid, or in the upper retrotarsal fold. These follicles persist for months and even years without developing into any of the lesions characteristic of true trachoma, without ever involving the cornea, and without showing any progressive character. All present must have seen this condition, and know that it is sometimes very intractable to treatment, but if we relieve the refractive condition, the patient is materially improved subjectively and the follicles cease to annoy him.

We must recognize, furthermore, the existence of true follicular catarrh, not identic in any way with trachoma from a clinical point of view, the difference being one of progressiveness and the absolute immunity of the cornea in true follicular catarrh.

It is now, I think, about eighteen years since there was a moderate epidemic of this form of conjunctivitis in Chicago, especially on the North Side, where I happened to have had more patients than in other parts of the city. I had a number of cases that were slightly follicular from the start; others were not, but became follicular, most of the cases yielding, however, to applications of nitrate of silver. The follicular and non-follicular cases were due to some virus, because the affection occurred often in the same family. Three or four members of a family were affected within a short time of each other, the process of healing taking place rapidly under appropriate treatment, or sometimes without it in some cases, while in others follicular development took place. Some of the cases subsequently developed a condition which brought up the question as to how far it was identic with trachoma. I recall three cases which, after some months of neglect, presented large follicles, and which, when seen at that time, could hardly have been distinguished from true trachoma. But the subsequent history was entirely different. All these three cases I had originally seen; they had neglected themselves. They were better after a short treatment, but returned after some months, when large follicles were present. The difference between these follicles and true trachoma was this: They were situated more on the tarsal and less on the retro tarsal portion, they were never sago-like, but yet resembling in many respects the follicles seen in trachoma. All those cases were cured by a single expression, with the Knapp roller-forceps. Subsequent observation confirmed the absolute cure.

Dr. WILLIAM T. MONTGOMERY—We have all had experience similar to that related by Dr. Gradle with the follicular form of conjunctivitis, and from that fact I have been led to believe that it is an entirely distinct type of inflammation. In cases of follicular conjunctivitis I have repeatedly relieved the patient permanently of the trouble by a single expression. The cornea is never involved in that form of the disease, which is a feature very different from what we find in true trachoma.

PULMONARY TUBERCULOSIS.

ITS EARLY DIAGNOSIS AND THE LOCATING OF THE LOCAL LESION BY THE USE OF POTASSIUM IODID.

Read before the Chicago Society of Internal Medicine, Dec. 22, 1898.

BY EDWARD F. WELLS, M.D.

CHICAGO.

Cases of suspected tuberculosis of the lungs are occasionally encountered in which, from various causes, the ordinary diagnostic resources fall short of our necessities, and in which additional aids to the earliest possible diagnosis are earnestly called for. Again, there is another class of cases in which the history, symptoms and perhaps bacillary sputum may point unerringly to the presence of pulmonary tuberculosis, yet the location of the lesion can not be demonstrated, although it is desirable, or even important that this be done. In meeting these requirements iodid of potassium has a certain but not a constant value.

When iodid of potassium is administered it is eliminated, in part, by the bronchial mucous membrane, and it has long been known that, as the result of such elimination the bronchial mucus is increased, mainly by the addition of water, cough may occur or be increased, and râles may develop or be accentuated.[1] These effects are especially prone to occur when the doses of the iodid given are small or moderate. With a knowledge of these effects of the iodid of potassium Stricker suggested that the drug might be useful for diagnostic purposes in pulmonary tuberculosis, and Vetlesen[2] put the suggestion to a practical test. He used the iodid in 3½-grain doses three times a day for two or three days in 27 cases, obtaining a positive reaction in 8, and negative results in 19 cases. In the cases in which the reaction was positive, expectoration and râles were increased, the tubercular foci being readily located by the exaggerated râles heard in the vicinity.

As soon as my attention was called to Vetlesen's paper I began a series of observations for the purpose of determining, if possible, whether we have in the iodid of potassium an agent of diagnostic value in pulmonary tuberculosis, and if so, to define as far as practicable its limits of clinical usefulness. The inquiry was extended so as to include the effects of the administration of iodid of potassium upon the respiratory sounds in health and a variety of non-pulmonary diseases; in cases of non-tubercular pulmonary affections, and in cases of suspected or evident pulmonary tuberculosis. These observations have now become sufficiently numerous to permit the formation of definite conclusions, and these are here presented.

In health and in non-pulmonary diseases the iodid of potassium in small doses may produce mucous râles, but these are universally diffused, have peculiar characteristics, and can not lead the experienced auscultator astray. In some cases fine bubbling sounds may be heard at the base only with ordinary respiration, becoming audible over the upper lobes on deep inspiration. Usually cough is not present, but it developed, with any sized dose of the iodid in two of my cases. In ten carefully selected persons the iodid produced râles in only four; they were absent in six. A large number of other cases were observed with practically the same results.

In non-tubercular pulmonary affections the iodid was given in many cases with varying results. In whooping-cough the râles were not materially modified. In acute bronchitis the râles become finer and more uniform in character and distribution. In two cases of bronchitis which persisted for several weeks, with a heavy muco-purulent expectoration, with râles only on forced breathing or coughing, diffused fine bubbling appeared with gradual disappearance of the coarse crackling râles. In one case of hay-fever the râles were not changed. In all of a considerable number of cases of asthma the sonorous and creaking râles gave way to a fine bubbling, or in a few days to the entire disappearance of all morbid sounds. In all the cases of this class the iodid appeared to produce moist râles or modify the morbid sounds present in a large proportion of instances.

It is, however, the effect of iodid of potassium on the respiratory sounds in persons with demonstrable or suspected pulmonary tuberculosis, which is of peculiar interest and importance in this study. Generally speaking, it may be affirmed that in these cases in which tuberculosis is proven to exist, but with inability to locate the lesion, the locality and extent of the affected area may be made evident by the development of râles; that in cases with râles and an apparent ability to demonstrate the extent of local involvement

[1] Trousseau: Clin. Med., Phila., 1873, ii, 167; Brunton: Pharmacology etc., Phila., 1885, 519.

[2] Norsk. Mag. f. Lag., October, 1897.

the observer will be gratified with the clearness of the auscultatory evidence, and astounded at the revealed extent and distribution of the deposit, and that in suspected tuberculosis, râles and bacillary expectorate may be obtained earlier than is possible by any other means. The râles are induced or intensified in the consolidated area because the fluid in the bronchi accumulates here, and with coughing or deep breathing bubbling is produced. In my experience a reaction has been obtained in about two-thirds of the cases in this class. The reaction varies with the individual; in some cases the râles present are simply intensified; in others distinctive râles are developed in localities where they were before absent; in some of these, and in others, fine bubbling sounds are diffused all over the chest, but with a distinct accentuation and definiteness of the râles in the consolidated areas; in yet others no changes are produced.

A study of this kind does not readily lend itself to elucidation by the tabulation or narration of cases, but a few are appended, rather to illustrate the range of applicability and usefulness of this test than to show whence my conclusions have been drawn.

Case 1.—A woman, aged 32, whose mother and sister died of pulmonary tuberculosis, had in 1894, febrile attacks, loss of weight, cough, pleuritic pains and bacillary expectoration and râles at the root of both lungs, and above and below the right clavicle. These symptoms ceased and the signs disappeared within a year, since which time her health has been very good, except for an attack of appendicitis in the spring of 1897, and during this time she has borne and nursed a child. Last winter she had some fleeting chest pains and slight cough, but no expectoration. The iodid test was negative.

Case 2.—A young woman, aged 23, has been under observation for several years. Her maternal grandfather and one uncle died of phthisis. She has always had good health. In February, March and April, 1898, she had a persistent, insignificant cough without expectoration, and for several weeks had an afternoon temperature of 99 to 101, with a normal morning temperature; respiration 16 to 18; pulse 64 to 76, with a negative tracing as follows:

Blood, sp. gr. 1057., hemoglobin 85 per cent., red corpuscles 4,000,000 and no increase of leucocytes. Three grains of the iodid were given three times a day for two days. A frothy expectoration began at once and continued for several hours after discontinuing the drug. Some of the sputum was centrifuged and examined for tubercle bacilli, with negative results. Diffuse moist râles on deep breathing were developed. The cough and evening fever gradually declined and ceased after about six weeks. She has been under close observation since, but neither fever nor pulmonary symptoms have been noticed.

Case 3.—A young girl, aged 15, of good family history, when first seen had had for four months feverish attacks, hemoptysis, cough and bacillary expectoration. There was tenderness of both apices, with râles and high-pitched expiration on right side at the back and above and below the clavicle. No signs could be detected on the left side. After iodid of potassium had been given for four days, râles, with deep inspiration and coughing were distinctly heard on the left side behind, and they were accentuated and heard over a larger area on the right side. A week later, without the iodid, no râles were audible on the left side. Four months later all the auscultatory signs of pulmonary tuberculosis were present on both sides, in the back, above and below the clavicle and in the axillæ. She had lost much in weight, had constant fever and the other ordinary symptoms of rapidly progressing phthisis.

Case 4.—A young married woman, aged 20, whose father has asthma and brother has phthisis, had diphtheria at 10 and cerebro-spinal meningitis, followed by chorea, at 15; has had a cough with morning expectoration for ten months. She has had asthmatic attacks for two years. On examination there were heard all over the chest loud, sonorous râles, with creaking sounds on deep inspiration. Expiration was prolonged and there was a hyper-resonant percussion note. In addition the right apex was tender on pressure, the pain being referred to the axilla, and the sense of increased resistance was distinct. The sputum contained tubercle bacilli. Three grains of iodid of potassium were given three times a day for two days, but no material changes in the signs were noted, and the asthma was worse. Fifteen grains were now given four times a day, and twelve grains of sulfonal were given at night. Three days later the asthmatic symptoms had subsided and the loud, sonorous râles and creaking sounds had disappeared. There were now to be heard sub-crepitant râles all over the chest, with coarse crackling at the roots of both lungs and finer râles above both clavicles and below the right, with rough inspiration and prolonged, high-pitched expiration.

Case 5.—A young woman, aged 21, all whose immediate relatives have either died with or now have pulmonary tuberculosis, has had hemoptysis at intervals for eight years, with cough, expectoration and febrile attacks. There were abundant evidences of tubercular consolidation, slight cavity formation and fibrosis in both lungs, nevertheless she was given the iodid test. After twenty-four hours the râles had become intensified, and the extent of the infiltration could be made out with startling distinctness, and was discovered to be much more extensive than was at first supposed. On the second day the respiration, which had become serous and frothy, became hemorrhagic and the iodid was discontinued. Tubercle bacilli were present in the sputum before, during and after the test.

In conclusion: I believe the iodid of potassium test, as described, to be free from danger and serious objections; that it lends itself readily to the exigencies of routine practice; that in the early diagnosis of pulmonary tuberculosis and in defining the location and extent of the lesion, it is a useful addition to our diagnostic resources.

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DISCUSSION.

Dr. Frank Billings—I had the pleasure of meeting Dr. Wells in consultation over one of his cases in which iodid of potassium was used. I have also practiced it in three cases altogether. Personally, I feel a little afraid of it. In one of the cases in which I used it, the tubercular process became more acute than the history showed it had been before, and I have reason to suppose that the catarrhal process, increased by the use of iodid of potash, led possibly to a more rapid growth of the tubercle bacilli, or at least to a better soil upon which they could grow. I may be wrong in this opinion.

Dr. J. M. Patton—I would like to say that in speaking to Dr. Wells about this matter a couple of weeks ago, before I had paid any attention to it, it brought to my mind a case for whom I had prescribed in my clinic the previous week, in which there was localized apical tuberculosis with an asthmatic condition. This patient was given fairly large doses of iodid of sodium, and was under treatment for two or three weeks with almost complete relief of the asthmatic condition. The apex was involved in this case, and at the next return of the patient to the clinic, I found I was much better able to isolate, by auscultation, the part of the lung involved in the tubercular process than before the administration of the iodid. The extent of the percussion note was not particularly changed, but the pitch of the breath-sounds and the râles were much more clearly made out. The râles were very free and more numerous. We got typic sub crepitant râles in the collateral areas; whereas the dry, asthmatic râles had almost disappeared.

Dr. M. L. Goodkind—I would like to ask Dr. Billings wherein the danger lies in using the iodid of potash, as recommended by Dr. Wells. I should think by dilating the arterioles it would diminish the danger of hemorrhage, unless there be a possibility of edema of the lungs occurring following its use.

Dr. Billings—It is suggested by Dr. Wells that this remedy increases the secretion in the bronchial tubes, particularly if there be tubercular infiltration of the lung, and it will do so to such an extent that the râles are more easily recognized. This means an increased catarrhal process for the time being. In one case in which I used the iodid of potash, I have every reason to believe that it possibly increased the tubercular infiltration, and that is the reason I fear its use.

Dr. Liston H. Montgomery—Did we understand you to say, Dr. Wells, that the use of iodid of potash in these cases is simply for diagnostic purposes?

Dr. Arnold C. Klebs—I want to say a few words in connection with the paper of Dr. Wells, although I have no personal experience with the potassium iodid test. This drug has certainly the tendency to increase or produce dyspeptic symptoms, and as we have almost invariably such in incipient tuberculosis, its application might produce undesirable by-effects. This

speaks against it, inasmuch as we have other methods which give the same results with the same accuracy. Of course, any aid to early diagnosis is valuable, as whatever our preventatative or therapeutic measures might be, much of the success of the latter will depend on early diagnosis. To so many the detection of the tubercle bacillus is the only criterion of the presence of the disease, and this standpoint can not be strongly enough objected to, as the appearance of the bacilli in the sputum can only take place following degenerative tissue changes, "breaking-down," the essential feature of the so-called third stage. For statistical purposes we have to have an exact basis for comparison and here we need the presence of the bacillus for diagnosis.

In cases in which the anamnesis as to heredity or special exposure to infection, the mode of life or occupation, a careful consideration and comparision of data derived by measurement—chest measures, vital capacity, respiratory force, height and weight—are not sufficient, in which repeated physical as well as microscopic examinations are negative, and where there is still reason for suspicion, observation for a longer period and the application of such a test will prove valuable. I have used for this purpose tuberculin, which I find satisfactory and harmless, although not absolutely specific.

The point I wish to make is that *one single* test, which in the simplicity of its application, harmlessness to the patient and indisputable accuracy allows us to dispense with other diagnostic methods, does not exist yet, though the development of radioscopic technic might furnish it.

Dr. N. S. DAVIS, JR.—Have you noticed, Dr. Wells, any recommendation of the use of iodid of potash in this way in literature. I remember a few years ago of seeing in one of the French journals the recommendation of its use, I think by Germain Sée, although I am not positive about that. It was recommended as a safe and useful means of diagnosis in the early stages of tubercular disease of the lungs.

Dr. BILLINGS—I would like to ask Dr. Wells to tell us in his closing remarks whether he thinks the iodid of potash excites the catarrhal process, or whether any of the patients have been injured by its use.

Dr. WELLS (closing the discussion): I have not felt that my patients have been injured by the use of the iodid of potassium. The method of use is as follows: Small doses, two to four grains, are given, three times a day, for two or three days. It is not given for any considerable length of time. To be sure, I appreciate the fact that even a little excess of catarrhal inflammation set up might turn the scale in any case. The secretion induced by the iodid, however, appears to be largely serous, and not inflammatory. The distinction is, I think, important. The same thing applies to iodid of potassium in these cases as a diagnostic agent that applies to the use of tuberculin. It applies to the taking of catarrhal colds, etc. As to its usefulness, I believe it to be a valuable diagnostic agent. The case referred to by Dr. Billings was a good illustration of the value of this method, inasmuch as from first to last, a full year, there was no bacillary expectoration, except during the last two months, and this was clearly from laryngeal and epiglottic ulceration. Early, râles were noticed on the right side, behind. Sometimes they were present, sometimes not. When iodid of potassium was given, the râles were distinct and were heard extensively on both sides. Here is a class of cases in which it is particularly useful.

(At this juncture Dr. Wells went to the blackboard and sketched the position in which the râles were usually found, and pointed out that instead of finding them in a particular location, after giving the iodid of potassium, they would be also found elsewhere, thus enabling the physician to locate the lesion and to define its extent.)

I have under my care one young woman, who has been under observation for several years, who has had tuberculosis for eight years, and for a long time râles were heard over the upper lobe of the right lung and at the root of the left lung behind. After iodid of potassium was given, râles were heard in various locations throughout the upper and middle lobes of the right and left lung. As in this case, the extent shown to exist in these infiltrations is sometimes astounding. The râles, as pointed out by Dr. Patton, are exaggerated, and the diagnosis is rendered clearer in every way.

In reply to Dr. Davis' question, I will say that in my paper I have given the only reference which has come to my notice. Although some of my observations were made prior to Vetlesen's publication, no claims to originality are made. I simply offer my opinions based upon a considerable experience.

ADDENDUM.—Dr. A. C. Klebs calls my attention to the statement by Amet (*Bull. gén. de Therap.*, Feb. 28, 1898), that in latent tuberculosis iodid of potassium excites cough and expectoration, and the ausculatatory signs become more pronounced.

POLLUTION OF THE POTOMAC RIVER.

A PERSONAL INVESTIGATION THEREOF MADE AT PIEDMONT AND CUMBERLAND, MD.

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While on a visit to the city of Cumberland, Md., during the months of August and September, 1898, the writer had the opportunity of examining the condition of the Potomac River water-supply at that city. It was alarming as well as disgusting to an inhabitant of Washington, D. C., to gaze upon the Potomac River water as it is seen at Cumberland. The color of the Potomac River water at that point, when seen in mass, is of a blackish brown; when run into a bath-tub for purposes of ablution, its color is that of a pale claret, and when poured into a bottle it is greenish yellow. As you go farther up the river toward the paper pulp mills at Piedmont, the color deepens, and all the stones in the river are covered with a yellow earthy deposit. The taste and odor of the water are repulsive, it is absolutely unfit for drinking purposes, and only very imperfectly subserves the purposes of washing and cleansing. This pulp waste also kills the fish of the Potomac River. The people of Cumberland can not drink it, and are compelled to resort to the use of cisterns, which are used as reservoirs for their supply of drinking water, which is collected during the rainy season from the roofs of the houses. It is only drunk by those who are too poor to pay for cisterns.

The chief of the many causes that contribute to the contamination of the Potomac water at Cumberland is the existence of a large paper mill, for the manufacture of paper from wood pulp, which is located at Piedmont, about thirty miles above Cumberland, and which is also located on the Potomac River. These mills, I am informed, disintegrate the wood pulp by a process which consists largely in the admixture with it of sulphuric acid and lime. These agents disintegrate the woody tissues and free the cellulose in a form fit for its use as paper. The fluid mass, consisting of about 300,000 gallons per day, resulting from this process is, without any attempt at separation or purification, poured into the Potomac River at Piedmont, thus contaminating the water at Cumberland and the many villages and towns located on the Potomac River between Cumberland and Washington, D. C.

But as far as the inhabitants of our capital are concerned, this is not the only cause of pollution. The citizens of Washington not only drink the waste of the paper mills at Piedmont, but all the sewage of Piedmont, Cumberland and all the many towns located on the banks of the Potomac for the 170 miles through which the Potomac flows from Piedmont to Washington. Fortunately, however, for the citizens of Washington, a partial purification of the Potomac River takes place by its admixture with the Shenandoah River at Harper's Ferry, W. Va. The Shenandoah River flows through a limestone country, and the salts of lime contained in it probably precipitate a large portion of the impurities of the contaminated Potomac water. During the course of the flow of the Potomac River the sulphuric acid existing in the wood pulp waste also probably becomes oxidized into sulphuric acid, and combining with the lime

present, precipitates it in the form of sulphate of lime, which is nearly insoluble in water. This partial purification of the Potomac River water above mentioned does not remove from it the most dangerous contamination, namely, the poisonous bacteria and germs of typhoid fever and other diseases, which are found in immense numbers in the sewage which is so abundantly poured into the Potomac River from the many sewers which empty into it.

The history of the paper pulp mills of Piedmont is one of the most striking examples that can be given of the utter disregard for the health and lives of their fellow-citizens by men who care nothing what becomes of others, so that they can make money. The Piedmont Paper Mills were started about ten years ago, originally on a very small scale, but now employ a large number of hands and occupy an extensive and valuable plant. It must not be supposed that the people of Cumberland have not resisted these encroachments upon the purity of their water-supply. After trying remonstrances in vain and also failing in appeals to the Maryland State Board of Health, they resorted to legal proceedings to enjoin the owners of the pulp mills from contaminating the Potomac water. The suit finally came to a trial in December, 1897, and after an obstinate and bitter defense by the defendants, a verdict of guilty was rendered against the owners of the paper pulp mills, Dec. 24, 1897. The owners of the paper pulp mills exhausted every legal means possible to prevent the verdict against them, and every possible pressure—personal, social, and even religious—was exerted in their behalf. The Piedmont people, I am informed, generally sided with the paper mill owners, for the reason that a large amount of money was paid, and is paid out in wages by the mills to the residents of Piedmont. The water-supply of Piedmont is taken from the Savage River, and also from a point in the Potomac River above the paper mills, and as their own supply of water was not contaminated they seemed not to think the pollution of the water-supply of Cumberland and the towns lying below them on the Potomac a matter of any importance. It is reported that at this trial those who attended as witnesses for the paper mill owners were furnished railroad tickets for half the usual fare and board at the Piedmont hotels at half the usual rates. Ministers of the gospel, I am informed, also actually prayed in their pulpits for the success of the owners of the paper pulp mills, and called down the anger of Heaven upon those people of Cumberland who were trying to take the bread out of the mouths of the working people of Piedmont, by endeavoring to close the paper pulp mills. The owners of these mills did not attempt to deny their pollution of the Potomac water, and the only defense they could make was, that there were other sources of contamination in the shape of sewers, water-closets, etc., which also defiled the water. The judge, however, very properly charged the jury that this was no just defense, and as above stated, a verdict was given against the company. On legal technicalities, however, a new trial was granted, and the case comes up again for trial in January, 1899.

Mr. Laney of Cumberland, a druggist, rendered most valuable and efficient services as a witness to the people of Cumberland during this trial, in endeavoring to save the Potomac River from pollution. During the trial he showed to the jury, photographs and lantern slides, showing the killing of the fish in the Potomac River and the creeks emptying into it, on being mixed with the waste of the paper mills. I here offer some extracts taken from a paper written by Mr. Laney and published in the *Daily Independent*, July 26, 1898:

"The Luke paper mill was established in 1889, the water works of Cumberland were put down in 1870. Now, as to prior right, who has the preference? As to riparian rights, we are their seniors by a hundred years, while as to our legal status, the common court of the world says that no one has any right to pollute directly or indirectly any stream so as to divert its proper use by man or beast. When this mill first began, the flow of refuse matter was not large enough to be objectionable in any degree. But it has gone on gradually and assiduously spreading its poison until the evil has become of enormous proportions and intolerable to the people of this city. Let us for a moment examine some of the facts more closely. In this mill there are three pulp digesters, each 38 x 15 feet, holding the material to be converted into pulp, which, according to the testimony at Frederick, was a mixture of sulphur burnt and combined with steam, forming sulphurous acid, that was then united with lime, forming a mass improperly called sulphite of lime.

The digesters are filled with hemlock wood in moderately fine chips, to which the aforementioned liquid is added and steam applied. When the steam enters the chamber, it forces, under enormous pressure, the lime and acid to combine with the intercellular material, thoroughly separating the two, after which the valve of the digester is opened and the contents are allowed to run into the river, nothing but the wood pulp being retained. Now of this material 45 per cent. of the wood, together with all the lime and sulphurous acid is thrown into the river. In the summer time, when the stream is lowest, every drop of water, as far as they can control it, is dammed up and turned through a trough for the use of the mill. The ordinary flow of the river at the lowest is daily about 10,000,000 gallons, of which 6,000,000 is passed through the mill and turned over to us as a by-product.

Of this 6,000,000 gallons about 300,000 are the direct and particular output daily of the digesters themselves; nasty mean, filthy, stinking stuff, worse than the hell-broth of Macbeth fame, which is allowed to mix with the already polluted first deposit, and to fill the banks with slime and foam. No animal life can survive it, and consequently fish, formerly so numerous in the stream, have all been killed. The very presence of these fish, moreover, caused a purification of the water, from the well-known fact that a great deal of deleterious matter is consumed by them and so converted into valuable food products, as well as preventing their transformation into poisonous ptomains. Hence, when the water now issues from the pipes there arises an odor identic with that of the pulp mill, too vile for description, a foam too tenacious for dissolution, a color appalling—in a word, making the water utterly unfit for domestic or mechanic use. When put in a boiler, it jeopardizes life at every turn, for you can never tell whether you have got steam or foam, thereby incurring risk of life and property to all connected therewith. As to taking a bath in it, this is impossible to any one having regard for his own cleanliness. To pen 20,000 people up in a town on a hot day and not allow any the privilege of a bath is something too stupendous for comprehension in the nineteenth century. The odor is too rank for cleansing closets, too obnoxious for washing the streets—indeed, too vile for any use whatever.

To those who may enlarge upon the difficulty and hardship of removing an already established plant, I am willing to admit it, but I have this to say in reply: It is my opinion that by a system of evaporation, consuming about thirty or forty tons of screened coal daily, all the obnoxious water could be distilled and returned to the river much less harmful than now. The coal they have at their door, and the expense would not be so very much. These men do not dare to say that they do not pollute the water, for Mr. Luke himself admitted to me that the product of their digesters made the water entirely unfit for any purpose whatever. German, French, English and American chemists (than whom there are no better) all agree that the products of a pulp digester are highly obnoxious and can not be rendered innocuous except by some such process of distillation as I have outlined above."

Finally, how can this condition of the Potomac River drinking water be remedied? As far as the Piedmont paper mills are concerned this can be done by two methods: the first of these is to treat the paper pulp mills waste by chemic agents which will convert and precipitate the sulphurous acid and lime in the shape of sulphate of lime. The other and prefera-

ble method is to distil the water from the pulp waste and thus convert it into a semi-solid material, which can be removed and deposited far from the Potomac River. Either of these methods will entail a considerable amount of expense to the owners of the paper pulp mills, but it will, we think, be universally admitted that no man has a right to make money at the expense of the health and lives of our citizens.

The question of how to prevent the sewage pollution of the Potomac River water from Piedmont, Cumberland and all the towns which line the bank of the Potomac, thence to Washington, D. C., is a much more difficult and troublesome question even than that of its pollution by the Piedmont paper pulp mills. It is my deliberate opinion that while we may palliate and diminish this great evil by other means, yet the only radical and thorough remedy—as far as the citizens of Washington are concerned—is to establish a filtration plant near Washington, capable of filtering and purifying the supply of water required by the citizens of the District of Columbia. The alarming and steady increase of the death-rate from typhoid fever in Washington which has occurred during the past ten years is no doubt very largely due to the contamination of the Potomac River water, by the sewage which flows into it from every town and city situated on its banks. As these cities and towns increase in population, the pollution of the Potomac drinking water that we receive in Washington will inevitably increase, and this condition of affairs demands prompt and speedy action. The filtration and purification of the entire water-supply of Washington can be done just as thoroughly and effectually as it has been done in Hamburg and Berlin, in Germany, and also in Lawrence, Mass., and many other cities of the United States.

GYNECOLOGIC DISEASES.

SOME POINTS IN THE DIAGNOSIS OF THE MORE COMMON ONES.

Read, by invitation, before the Northwestern Ohio Medical Association, Dec. 8, 1898.

BY J. T. WATKINS, M.D.

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CHICAGO.

This paper was written with the constant fear that it would contain much that would be commonplace to you, but with the hope that it would contain subject-matter of ample practical importance to recompense you, in part, for the time which you have kindly allotted me. My experience has been that mistakes in diagnosing the more common gynecologic diseases are frequently made from not observing some points, which, with your kind permission, I will consider.

INFLAMMATION OF THE GLANDS AT THE VAGINAL ORIFICE.

This can be determined by detecting redness about the Bartholinian glands, urethral glands, and other glands about the vestibule. Observation of these glands is important, if the seat of inflammation, as an evidence of infection which in most instances will prove to be gonorrheal in origin. The openings into the Bartholinian glands will be found external and in close proximity to the lowest caruncle on either side. The glands can be palpated by placing one finger in the vagina and by making counter-pressure, with the finger near the lower border of the labium majus, over the gland. The size, sensitiveness to pressure and the patency or occlusion of the ducts can thus be determined. The expressed liquid may have the normal appearance, being clear, viscid, sticky and slightly tenacious; may be yellowish from presence of pus, but always contains a large amount of mucus. Often no secretion can be forced out on account of occlusion, as the result of inflammation in the ducts. If the ducts are closed, the glands will usually be enlarged, as the result of accumulation of serum, mucus, blood or pus.

Skene's glands, when the seat of chronic inflammation, will give the feeling of a needle on either side, running parallel in the urethro-vaginal septum, and extending one-quarter to one-half or even one inch from the meatus urinarius. If the seat of inflammation, secretion can be forced from them by pressure, and will usually be found to resemble a milky fluid. If it contains much pus, the color will be yellowish. Inflammation in the urethra and in Skene's glands is less frequent than in the Bartholinian glands, on account of the protection of the meatus urinarius by one or two folds of mucous membrane, which act as valves to the urethra, and tend to guard it from infection from the vagina and vulva.

Microscopic examination of discharges from inflamed glands at the vaginal orifice, will show broken-down epithelium, more or less pus-cells, and may show gonococci and other micro-organisms. In very chronic cases, even in cases of undoubted gonorrheal origin, gonococci can seldom be found. Gonococci may have disappeared from these glands, but continue to exist in the uterine cavity or in the tubes.

The significance of detecting inflammation in these glands is realized in determining the etiology and the treatment of endometritis, salpingitis, urethritis and cystitis, which may be present. Chronic inflammation in these glands is strong, but not conclusive evidence of a previous gonorrheal infection.

REMOTE INJURIES OF THE PERINEUM FROM LABOR.

Only two classes of injuries will be considered, as they include all varieties that are of pathologic importance. They are: 1, injuries involving the sphincter ani muscles; 2, injuries producing relaxation of the pelvic outlet.

1. Tears involving the sphincter ani which extend through the rectal wall are easily diagnosed. In this condition there will be some protrusion of the rectal wall, which will have a deeper color than the vaginal mucous membrane, and may be mistaken for hemorrhoids. The rectum and vagina become one canal. The patient suffers from incontinence of feces and gas. Lacerations may involve the external sphincter muscle without extending through the rectal wall. In this condition there will be no protrusion of the rectum. There will be a loss in continuity of the folds of skin that normally surround the anus. The place where the folds are absent will indicate the seat of injury to the muscle. Near the last fold on either side will be found a small depression which determines the location of the ends of the severed muscle. It is important to find the free ends of the muscle in order to perform a successful operation. The ends of the muscle may also be found by pinching it, so as to induce contraction. The patient will suffer from incontinence of gas, but possibly from incontinence of feces only when they are liquid in character. Symptoms of loss of pelvic support in cases of laceration of the perineum involving the sphincter, or even extending into the rectum, are usually absent, because the injury does not, as a rule, involve the fascia and muscles lateral to the vagina.

2. Relaxation of the pelvic outlet. In this connection it is preferable to use the term "pelvic outlet" rather than "perineum," because the perineum, as usually considered, does not include the portions of levator ani muscle and accompanying fascia, which extend from the rami of the pubes on either side of the vagina to the perineal body. These lat-

vaginal structures are the parts principally lacerated or elongated in relaxation of the pelvic outlet. In relaxation of the pelvic outlet, the following conditions are present, which are of diagnostic importance: 1, backward dislocation of the perineum; 2, bulging of the perineum, which diminishes or destroys the concavities in the perineum; 3, diminished resistance of the perineum on palpation; 4, protrusion of the rectovaginal or vesicovaginal walls.

In relaxation of the pelvic outlet, the skin perineum is often very deep, as the result of stretching, the skin not torn, and the fourchette intact. The perineal body, however, may be small, the skin torn, even to the sphincter ani. The sphincter ring will always be found present when the sphincter muscle remains uninjured. The efficiency of the perineum as a pelvic support does not depend upon its size, but upon its location. A large perineum may give very poor support, and a small perineum may give perfect support. If the perineum, whether shallow or deep, is displaced from beneath the pubic arch toward the coccyx, the pelvic support is diminished, and the amount of loss of support is in direct ratio to the amount of displacement. If the perineum, whether large or small, is close beneath the pubic arch, it gives good pelvic support.

If the perineum is normal, a concavity exists external to the labia majora, and also just anterior to the rectal ring, as the result of its fascial attachments. If there is much relaxation, these concavities disappear, and convexities may result from stretching or laceration of the fascia lateral to the vagina on one or both sides, which normally hold the perineum in position beneath the pubic arch. Palpation is made by placing the examining finger in the pubic arch and by exerting moderate pressure upon the perineum, along the ramus alternately on either side, and in noting the distance the finger traverses. In normal cases the finger will only be pressed back from one-half to one inch. In cases of marked relaxation, the finger may be readily pressed backward two or two and a half inches. By palpation, the size of the levator ani muscle may be noted on either side of the vagina, and also whether the muscle remains joined together anterior to the rectum. If the patient is not anesthetized the amount of relaxation may be underestimated by contraction of the muscles of the pelvic outlet.

The rectovaginal wall may protrude, as the result of loss of the normal support of the perineum to the rectum and from lengthening or laceration of the fascia of the posterior vaginal wall, which normally extends across from one side of the pelvis to the other. The vesicovaginal wall may protrude, as the result of diminished support from the posterior vaginal wall, which may cause gradual lengthening of the fascia of the anterior vaginal wall, or its fascia may be injured during labor, or elongated if subjected to continuous tension. Loss of continuity of the caruncula myrtiformes and scars in the vagina and on the skin indicate that there has been a laceration, but are of no significance in determining if the injury is of any pathologic importance. They are, however, of some importance while operating, to determine the normal contour of the introitus. The symptoms produced by relaxation of the vaginal outlet are inability to walk and stand without discomfort. On much walking or standing the patient will suffer from a feeling of weight in the pelvis, backache, and a dragging sensation in the inguinal regions. Such patients frequently complain of always feeling tired, and the amount of pelvic congestion and dilatation of the pelvic blood-vessels may so affect the circulation and nervous system as to produce headaches and other symptoms of neurasthenia.

In relaxation of the pelvic outlet, it is often difficult to determine if the injury is sufficient to indicate operative interference. If there is considerable relaxation, which apparently produces some or all of the above symptoms, operative treatment should be employed. If there is relaxation, without much accompanying prolapse of the vaginal walls, which does not seem to produce symptoms as above enumerated, or uterine displacement, operative treatment is indicated. Relaxation is more apt to produce symptoms in large plethoric women than in others, and symptoms are more apt to result when the general muscular tonus is below normal than otherwise. To illustrate, a patient came to my clinic at the Northwestern University Medical School, in whom I used repeatedly to demonstrate, to the students, relaxation of the pelvic outlet. After remaining away from the clinic for about a year, she returned suffering from a cyst of one ovary. To my surprise, the perineum was found quite strong, as the apparent result of a large amount of bicycle riding in which she had indulged. The exercise had improved her general muscular tonus, had strengthened the perineal muscles, and she no longer suffered from symptoms of diminished pelvic support. The increased muscular strength had compensated, in part, for the deficiency of the fascial support.

PROLAPSE OF ENTIRE URETHRA.

Usually the displacement is principally or entirely downward. The meatus, instead of being near the arch of the pubes, is on the lower surface of the pubes. The diagnosis is made by pressing the urethra upward in the direction of the cervix, with the palmar surface of the examining finger over the urethral canal. Palpation will usually show that the urethra is not displaced backward from the pubic arch. The amount of prolapse will be determined by the amount of mobility of the canal, as normally the urethra has very limited motion.

Under this heading is not considered the backward displacement of the upper portion of the urethra, which accompanies cystocele. A prolapse of the entire urethra, extensive enough to be of pathologic importance, will produce symptoms of partial incontinence of urine, such as escape of urine on coughing, sneezing, heavy lifting, etc., or total incontinence. In extensive cases, the patient may complain of a protrusion and of irritation due to friction on standing or walking.

DIAGNOSTIC POINTS OBTAINED FROM EXAMINATION OF THE CERVIX.

The lower end of the cervix is normally located about one inch from the sacrum and about two inches below the promontory of the sacrum. The normal location of the cervix is frequently given in textbooks, and is often taught, as about midway between the pubes and sacrum. This must be an error, as the anterior vaginal wall averages about two and three-fourths inches long, and the cervix three-fourths of an inch in diameter. The sum of these subtracted from the diameter of the pelvis, gives the distance from the cervix to the sacrum, which is abou

one inch. I have frequently verified and demonstrated to students the correctness of these distances, by examination of patients. If the cervix is found in normal location there is no prolapse, and the distance the cervix is found below this location determines the amount of prolapse. With the cervix in normal location, one can definitely say that there is no backward displacement of much importance, as the distance between the cervix and sacrum is not sufficient to accommodate the body of the uterus.

Valuable evidence of the position of the uterus can frequently be obtained by a difference in the length or thickness of the two lips of the cervix, growths of the cervix being excluded. When either lip of the cervix is much elongated or thickened, the body of the uterus is almost invariably on the side of the thickened or elongated lip, that is, if the anterior lip is much thickened or elongated, the uterus will be in anteflexion. If the posterior lip is much thickened or elongated, the uterus will be in retroflexion. These conditions refer almost entirely to cases where there has been more or less laceration of the cervix, as the contour in the non-lacerated cervix is such as to prevent eversion of the lip, or much elongation. In the non-lacerated cervix, however, with marked flexion of the uterus, the lip on the side of the flexure is likely to be somewhat elongated and more pointed than the other lip, giving the condition frequently spoken of in anteflexion of the uterus as "sled-runner" in shape. This change in either lip, from flexion of the uterus, is due to the fact, that when the uterus is anteflexed, the anterior wall of the uterus is shortened and thickened, while the posterior wall becomes elongated and thinned, and vice versa. The thickening in the lip is due to eversion, and the elongation is due, in part, to eversion, and in part to slight sliding of one lip over the other. These changes in the lips of the cervix, will not be found in recent flexions, and are less pronounced in mobile flexions than in fixed ones.

My observation has been that physicians frequently take into consideration the direction the cervix points in determinining the position of the uterus. Absolutely nothing can be told of the position of the uterus by the direction the cervix points, as the cervix may point forward in the direction of the pubes in cases of acute anteflexion and in cases of retroflexion. The cervix may even point in this direction with the body of the uterus at any point between anteflexion and retroflexion.

It is not intended that the above observations should take the place of bimanual examinations in diagnosing the position of the uterus, but should supplement them. The uterine sound should very rarely be used to diagnose the position of the uterus on account of the danger of infecting the uterus.

Examination of the cervix as regards laceration.—Under this head only erosion and glandular degeneration will be considered, as they are the only two results of laceration of the cervix that require treatment. The erosion will be found of a deep red color, with a granular surface covered by muco-purulent discharge. The erosion will usually be confined to the everted portion of the cervical canal, and consequently the amount of eversion can usually be determined by the amount of erosion. The antero-posterior diameter of the cervix will be greater than normal, on account of the eversion of one or both lips of the cervix. Extensive glandular degeneration is detected by increase in the size of the cervix, by a shot-like feel to the cervix on palpation, and by observing the discolorations in the cervix, which the cysts produce.

DIAGNOSTIC POINTS OBTAINED FROM DIGITAL EXPLORATION OF THE UTERINE CAVITY.

Digital exploration of the uterine cavity is indicated in cases of menorrhagia from a large uterus, when gestation can be excluded, and when not the seat of a large tumor indicating hysterectomy.

Technic.—1. Forty-eight hours before the time set for operation, thorough surgical cleansing is made of the vulva, vagina and cervical canal. 2. The perineum is retracted with the speculum, the anterior lip of the cervix caught with a tenaculum or bullet forceps, and pulled down so as to steady the cervix and straighten the uterine canal. 3. A small sterilized tupelo tent is inserted, and the vagina packed with iodoform gauze. 4. At the end of twenty-four hours the tent is removed, the uterine cavity irrigated with 1 per cent. lysol solution and a large tent, or two small ones, inserted, and the vagina repacked with iodoform gauze. This will produce enough dilatation to admit the index finger. The examination can ordinarily be made without an anesthetic, but it is usually advisable to use one, as generally some operative treatment will be indicated demanding its use. The tents are best sterilized by dry heat and then kept in sublimated absolute alcohol until they are used.

Advantages.—1. A more accurate knowledge of the uterine cavity is obtained than can otherwise be acquired. 2. Polypi may be detected and removed, which may not be discovered by exploration with a sound, curette or forceps. 3. The perfect dilatation secured permits of thorough curettage and establishes good drainage. 4. Dilatation by tents for digital exploration is better than by rapid instrumental dilatation or incision, on account of diminished traumatism, more perfect dilatation and absence of risk of rupture of the uterus.

The advantages of digital exploration, after dilatation with the tents are well illustrated by the two following cases, which recently came under my care:

Case 1.—Mrs. S. complained of menorrhagia, weight in pelvis, and the effects of anemia. Examination revealed an enlarged uterus. The cervix was dilated by tents as above described and the patient was anesthetized. Digital exploration revealed a mucous polypus attached to the fundus of the uterus. The polypus was grasped by a forceps, and as I then supposed, entirely removed. The uterus was curetted. I examined the uterine cavity again to determine if there were other growths present, and to my surprise found that only about one-half of the polypus had been removed. This was then removed with a forceps. In this case, without digital exploration, the polypus would probably not have been detected, and without exploration, complete removal would undoubtedly not have been accomplished.

Case 2.—Mrs. D. complained of menorrhagia, weight and pains in the pelvis, and the effects of anemia. The uterus was enlarged and retroflexed, a small fibroid was detected in the anterior wall of the uterus and there was relaxation of the pelvic outlet. Dilatation by tents, as above described, was made and the patient anesthetized. Digital exploration of the uterine cavity revealed a submucous fibroid in the fundus, near the right cornu, about one inch in diameter. This was grasped with a Museux forceps and removed by torsion. The uterus was curetted, irrigated, and cauterized. The peritoneal cavity was then opened through the anterior vaginal fornix, the small fibroid in the anterior wall of the uterus enucleated, a vaginal fixation made and the pelvic outlet repaired. The advantages of the dilatation by tents and the digital exploration in this case are obvious.

Objections.—The objection to dilatation by tents is the danger of infection. If infection takes place it is due to a faulty technic, or to the presence of infection

the tissues involved before the treatment was commenced. The dangers of infection are such that no one should attempt the operation unless he has an "aseptic conscience," and is the master of an aseptic technic. The presence of infection in the vulva, vagina, or uterus increases very much the danger of dilatation by tents. A purulent discharge from the uterus contraindicates the use of tents, as the dilatation opens up spaces which readily admit infection. The danger of the use of tents in such cases is illustrated by the following:

Mrs. S., suffered from a profuse mucopurulent uterine leucorrhea, the result of an old gonorrheal infection. The uterine cavity had been dilated, curetted, irrigated, packed with gauze, and frequent cauterizing and antiseptic applications had been made, without giving any permanent relief. The cervix was dilated with tents for the purpose of making thorough curettage and for facilitating treatment by gauze packing. She developed cellulitis, whic resulted in a pelvic abscess, and which required incision and drainage of the abscess. In this case it was an error to use the tents; rapid instrumental dilatation would have been preferable.

93 E. Eighteenth Street.

PELVIC SUPPURATION.

PROCEDURE AND PLAN OF ATTACK.

Read before the Medical Society of the Missouri Valley, Council Bluffs, Iowa, Sept. 14, 1898.

BY BYRON B. DAVIS, M.D.

OMAHA, NEB.

If we are to draw our conclusions from society discussions, both in this country and abroad, the conviction is forced upon us that there is a greater diversity of opinion in regard to the management of pelvic suppuration than that of any other surgical lesion. Before asepsis had rendered celiotomy so uniformly successful, large pus collections in the pelvis were merely punctured through the vaginal vault; later the abdominal vault was looked upon as the only method deserving of recognition.

The French and Belgian schools next began the practice of doing almost everything by the vaginal route, advocating hysterectomy in all cases of double tubal suppuration. Several Germans and Americans adopted the same line of procedure, while their teachings were energetically opposed by a large number who advocated the abdominal route of attack.

So dogmatic have become the teachings of men practicing the one or the other of these methods that the adherents of the one plan would lead the credulous to believe that to reach a pelvic inflammatory affection from below is due to unsurgical timidity; while the advocates of the other extreme would have us believe that celiotomy in these cases is actuated by almost criminal rashness.

The most conservative discussion on the subject yet held was that opened by Cullingworth at the recent meeting of the British Medical Association in Edinburgh. This discussion was participated in by no less than seventeen eminent surgeons, representing all shades of opinion. The gratifying feature of the discussion is that extremists like Doyen and Jacobs have given up a part of their dogmatism and admit that celiotomy has its place in selected cases; while the English school are willing to concede that there are many cases in which the vaginal route is safest and best. After a careful reading of this discussion, one is forced to the conclusion that safety lies in the practice of neither of the extreme views, but in the careful selection of the method best adapted to each individual case.

No doubt many of us have often been perplexed and in some doubt whether a patient's interests would be best subserved by a radical or so-called "complete" operation from above, or by a safer and less complete operation through the vault of the vagina. A desire to elicit a free discussion on this subject is the purpose of a few remarks today.

In acute attacks of pelvic inflammation, it is often very difficult to decide whether there is greater danger in an immediate operation or in delay. Many cases which seem very serious make symptomatic recoveries, and occasionly I have examined women who had made, so far as could be determined by bimanual examination, anatomic recovery—and even when they had been supposed to have a collection of pus in the pelvis. These experiences have led me to hesitate about advising operation in many of these cases of acute pelvic inflammation.

In only two classes of cases do I uniformly advocate immediate operation: 1, those in which the amount of pus is large and tension great, where there seems to be danger of perforation into the peritoneal cavity, the bladder or the rectum; 2, those cases with profound sepsis, whether the amount of pus is great or small, in which the conviction is forced upon us that unless something is done to stop the septic absorption the patient is bound to succumb.

During the past few months no less than six cases of pelvic suppuration have been met with, in which one or both of these conditions have been present. In each case the patient was in no condition to endure a prolonged operation. All were operated upon through the vagina by free incision and drainage. All made operative recoveries and are now symptomatically well women. Whether any or all may eventually have recurrences it is impossible to say, but in the one case, in which I had an opportunity to make an examination some weeks subsequently to the operation, only the slightest amount of induration remained. Every one of these cases was very weak, with high temperature and rapid, weak pulse, at the time of operation, and to have subjected them to so serious and prolonged an operation as a celiotomy would have surely resulted in a larger percentage of mortality, if indeed any of them would have survived.

It is only just to state that in all but one of these cases convalescence was prolonged over a period greater than in the averaage celiotomy; but surely safety of the operation is purchased cheaply, even at the price of two or three weeks longer in bed. It is argued by Dr. Joseph Price that this is an operation which has its birth in timidity; is never complete, and leaves the patient in practically as bad a condition as she was before. The experience with these few cases has convinced me that it is better to be accused of timidity than to sacrifice a life on account of not having the courage to perform an operation, because it is supposed to be an indication of timidity.

Of these six cases, the pus was still located in the tubes in four cases, and each tube was opened and drained separately. In the other two cases the pus had broken through the tubes and we had a true periuterine abscess. In three cases the unquestionable cause of the infection was abortion; in the other three it was not determined whether it was abortion or gonorrhea, though the former was probable in all, and in no case could it be positively stated that the infection was gonorrheal. This is, in a small way, evidence in favor of the dictum of A. Martin, who says that very

seldom does a gonorrheal infection require an immediate operation, while infections from abortions frequently require operation in the acute attack.

In all my cases the vaginal fistula closed promptly, but it is only fair to state that a permanent fistula is doubtless to be expected occasionally. Recently I met with such a case, operated by another surgeon, in which a fistula was left. The patient, when she came to me, was in such a condition as not to contraindicate abdominal section, which was done and the woman recovered.

Only twice have I removed adnexa by the vaginal route, except when hysterectomy was done at the same time. In one of these cases no trouble was experienced, in the other so many adhesions were met with that I wished most heartily that the abdominal route had been selected. It gave one a thorough appreciation of the truth that the hand directed by the eye is worth much more than one or two fingers groping in the dark. This assertion, of course, labels me as not a skilful operator by the vaginal route, but I have seen a helpless expression on the face of several skilful vaginal sectionists, when I felt positive that one would have had clear sailing had the abdominal route been chosen. In general there can be no question that celiotomy possesses many points of advantage over vaginal section. Not the least of these is that one can see, as well as feel, what is being done. How frequently, in loosening adhesions, do we find the intestines, if not torn, at least so denuded that it is deemed unsafe to leave them without covering with peritoneum by means of Czerny sutures! In doing such work per vaginam we are almost entirely deprived of an opportunity of resorting to this conservative and life-saving procedure, being often left in doubt as to whether the bowels have been wounded or not. Even when the intestine has not been dangerously injured, it is denuded of peritoneum, and when no opportunity has been given to cover the raw surface, troublesome and painful adhesions are likely to form. Several surgeons are advocating conservative work upon the tubes and ovaries through the vagina. The procedure is to draw the tube and ovary through the vaginal incision, examine, puncture, cauterize, or resect, according to the condition present, and then return the parts to the abdominal cavity. If, as I believe, many of the most painful affections of the pelvis are produced by prolapse of the ovaries, with resulting traumatism by uterus and loaded rectum, this forcible dragging down can not but result in an aggravation of the symptoms, for there is no way of insuring the perfect restoration of such ovaries to their normal position by way of the small and deep opening through the vaginal vault. In chronic inflammations in the pelvis, if there is unquestionably a collection of pus low down, at a point easily accessible from the vagina, the vaginal incision is doubtless safer and in every case to be preferred. In all chronic inflammations, unless the collection is low down, the abdominal incision is in every way better, safer, and more likely to result in symptomatic as well as anatomic cure. As previously stated, in acute inflammations it seems usually better not to operate, except in the conditions mentioned. The question naturally arises: How long is it best to wait after the acute symptoms have subsided before a celiotomy should be undertaken? It is claimed that an acute infection immunizes a patient for a short period—the exact time not yet very definitely ascertained. Believing this to be the case, the time of election for an operation, if required, would be within a few days after the subsidence of the acute symptoms.

Regarding the technic, the bounds set for this paper will not permit a discussion. One point only I feel constrained to mention. If there is any pelvic tissue it is the worst kind of treatment to resort to irrigations and thus carry infectious matter into the uninfected recesses of the abdominal cavity. It is much better to wipe out carefully and then drain, either through the lower angle of the abdominal incision, or, what is better, through the vagina. It is very easy to make an incision through Douglas' pouch and thus get downhill drainage. Rarely, it may be necessary to make use of through-and-through drainage.

THE MEDICAL PROFESSION.

IS IT GOING INTO VOLUNTARY BANKRUPTCY?

BY LEWIS SCHOOLER, M.D.

DES MOINES, IOWA.

The plea of an overcrowded profession and low fees, as well as too many medical colleges and free clinics, have each in turn received a great deal of attention, with apparently no results, unless upon the theory of suggestion it has increased the evils that are complained of. This is, no doubt, more perceptible to clinicians than to others; and having conducted a clinic for many years, I may possibly be able to delineate a few occurrences that will prove interesting to the profession at large.

Clinical teaching has been so emphasized by the colleges and by the demands of the profession, that undue importance has been given to that feature in all colleges during the last few years, so much so that the institutions that have advertised the greatest number of clinics have generally obtained the largest classes. That this has been a great gain to the profession in general, the writer emphatically denies, and equally emphatically denies the supposed gain to the students. In acceding to the demands of the profession for strictly clinical teaching, prodigious efforts are put forth in order to obtain the necessary clinical material. The friends of the school are either publicly or privately encouraged, if not absolutely solicited, to act as agents of the school, in order that the material may be abundant. When this is the case it necessarily follows that little or no scrutiny is exercised as to the character of the persons who wish to avail themselves of the advantages of Professor ——'s clinic, and the distinguished professor, being partially intoxicated by reason of his rapidly increasing popularity, and entirely forgetting that a "free show always draws well," continues to operate upon poor and rich alike.

By way of confession, and that I may not seem to have the other fellow constantly in view, to the exclusion of all retrospective researches, I will admit that I have myself, operated upon at least one case who came to the hospital gorgeously bedecked with diamonds worth many hundreds of dollars, besides being clothed in "purple and fine linen," with a sealskin sacque over all. Others may or may not have had a similar experience. That this was a wrong to the profession, I confess. That similar wrongs are being perpetrated daily is not doubted at all by any one familiar with clinical work. The real question at issue is: Who is to blame? For one, I am willing to share a portion of it. There are few, if any, schools

that derive all their clinical material from the cities or towns in which they are located. A considerable portion comes from the country and smaller towns, and the patients have been directed to the clinic by their family physician, with the information that everything needful will be done without charge. Our experience is that there never is a week in the year that we are not called upon by persons abundantly able to pay for medical and surgical attendance, but who come with either a letter or verbal message from some practitioner in good standing, asking that they be allowed the privileges of the clinic.

That their actual financial condition is well known to those who advise them to go before the class can not be doubted, and that this practice of sending such patients to public clinics impoverishes the profession, is equally true. Some have even been known to take long trips to distant cities, stopping at high-priced hotels, having the patient pay their expenses, and in some instances subjecting the patient to a greater outlay of hard cash than would have been the case had they paid for the operation nearer home, instead of going so far in order to get something for nothing.

This is as clearly a wrong toward the profession as anything can be. The money paid to railroads and hotelkeepers is of no benefit whatever to the profession. Why any physician should be interested in obtaining free medical and surgical treatment for those who are able to pay is beyond my comprehension, and had I not so often been made the victim of such practice, I would probably doubt its existence.

That there are too many deceptions of this character goes without saying among those who conduct free clinics. That it is the duty of those connected with the schools to investigate and reject all but the worthy poor, I fully believe. But is there not a duty equally imperative resting upon those who send patients to such places? Are they not equally interested in the welfare of the profession? Does not a wrong done the profession hurt them as well as others? I think the above questions must all be answered affirmatively, and if so, let us pursue the subject a little further.

The wrong done the profession does not end with each individual case. It is too often the introduction of other cases, and the aggregate has a tendency to demoralize the profession, as a business at least. It is also demoralizing to the people. It teaches them to expect gratuitous services, and educates them to the belief that we put no value upon our services—and if we so educate them, is it any wonder that they patronize quackery? For be it said to the credit of the quack, he exacts a price for all that he does, and it is willingly paid.

Another very taking speech with these people is, that they have a list of schools where they can get work done for nothing, and if your school will not do equally well by them they will move on to the next. In the fierce rivalry between the schools, this may have either consciously or unconsciously had some effect in inducing some of us to relax where we should have remained firm. The fact probably is, that none of us have been so great sinners in this respect as we are generally supposed to be; but that all of us have been transgressors to a greater extent than is conducive to a high and lofty professional plane, is no doubt true. Having intimated a familiarity with a few of the causes that are likely to impoverish the profession, if persisted in, let us next inquire what is the remedy.

In prescribing a remedy, we should not act hastily and without duly considering its effects; in other words, we should exercise the same precaution in this respect that we do in our treatment of disease, viz., study well the difficulty that we seek to correct. Therefore, after fifteen years of observation and study of this question, I have arrived at some conclusions which I think are based upon the right principle, and which, if acted upon, would produce beneficial results—not immediately, but in time, the latter being a prime requisite in all reforms.

In the first place, I would not give clinical teaching such a prominent place as it is accorded at the present day, or as it is generally understood to occupy in the schools.

If clinical teaching is the *sine qua non* of all medical education, why do we prescribe a certain degree of preliminary education before entrance upon the study of medicine? I think that this is necessary and believe that it is. I think that it is equally, yea more, necessary that they have a greater amount of preliminary medical education before arriving at the clinical period of their journey, and when this point is reached it is very important that the student's mind is prepared to recognize what he sees. If he is in this condition, the study of a few carefully selected cases will be more beneficial in properly grounding him in the elementary principles of medical and surgical practice, than a thousand cases merely glanced at. It is not the number of cases seen, but the number studied. If this is not true, then take the young man from the farm, the store or the work-shop, or even from the streets, and set him down in an amphitheater and let him see a thousand or two clinics and then give him a diploma certifying his fitness to hold human lives in his hands. His patrons may then use the old argument in his behalf: "Because he knows nothing else he ought to know something about medicine." If I were to choose between two individuals of equal talents upon entering school and after giving one of them a course entirely clinical, and the other a purely didactic and laboratory course, I would unhestatingly choose the latter, for the reason that he would be well versed in the principles that underlie all rational practice. He would be in a position to be benefited by his observations, when brought into contact with disease, while the other, be he ever so brilliant, would never and could never be more than a case doctor. Just as long as the cases which fall to his care are parallel to the ones he has seen or been impressed by, he would be useful, but in the cases where there was a departure he would fail, and when we recall the fact that departures are the rule, and that typic cases are the exception, it is certainly not hard to predict the outcome in the two cases. True, neither of the above methods is strictly correct; but to which do we most nearly approach in the teachings of our modern medical classes? Evidently the clinical. Therefore, I contend for fewer clinics, better observed and studied, with a greater amount of didactic and laboratory teaching—not more lectures perhaps, but more actual teaching and study. For firmly impressing some things upon the minds of students nothing will ever supersede the lecture. Some things may be well taught by other methods, but in the lecture the stu-

dent perceives the personality of the lecturer. He receives from him impressions never to be forgotten, and if he be a lecturer of large practical experience, as he should be, those impressions will prove of the greatest value to the student in after years.

Much has been said of late against the lecture and in favor of the recitation method, but to my mind there is about the same relation existing between them that there is between direct testimony by a witness before a jury and a deposition by some one a thousand miles away. I would, therefore, place less value upon a large clinic, indifferently and hastily-conducted, and more value upon a small and carefully-studied one, one where the student would have abundant time and opportunity for examination, observation and diagnosis; where the lecturer would take more time and exercise more patience in properly aiding the students to arrive at correct conclusions than in a hurried effort to see how many operations he can perform in one afternoon. If this course were pursued, there would be fewer people to introduce as residents of distant States and Territories, and there would be fewer patients with abundant means returning from such places, exhibiting their scars and boasting that they were operated at the clinic of Professor ———.

It is generally supposed that cases of this kind are valuable to both the school and the operator. That the school derives some benefit from them is true, but that the operator gains anything in the end is, I think, quite problematic. But that it is a direct loss to the profession there can be no possible doubt.

The failure to discriminate against persons who would deceive as to their financial condition is one of the professional errors of the day. It is one that is not indulged in by any other of the learned professions; even the clergyman gives the Almighty greater praise when he is serving a wealthy congregation than when his lot is cast with one whose aim is to systematically starve him and his family, and is it any wonder that it is so? While our profession is one that is humane to a fault, and we are, and should be, justly proud of our achievements in that direction, we should not take pride in a benevolence that is conferred upon unworthy objects. This is not only detrimental to the interest of the profession, but of the whole people. Every physician, however limited his practice and field of observation, has seen, time and again, how easily people are degraded and pauperized by misapplied sympathy and so-called philanthropists and charity organizations. Once induced to accept the fruits of other people's labors without effort and without price, the descent from self-respect and independence to a life of dependence and pauperism is rendered very easy in too many cases. Let us, therefore, insist upon the payment of a price for our services.

The State pays attorneys for defending the vilest criminals; it also pays the cost of appeals to the supreme court, but makes scant provision for medical attendance upon the poor. Not that our lawmakers think more of the criminal than of the unfortunate poor, but they have been taught by us that we will not neglect a sick person because of his poverty. They have, therefore, surrounded the process with such an abundance of red tape, that the individual is too frequently cured or dead before the physician can secure legal sanction for his services. Hence the increased amount of uncollectable bills on the books of the general practitioner.

In order to avoid the hideous specter of bankruptcy let the colleges reform their methods of teaching; let the members of the profession have a care in sending people to clinics; let practitioners, general and special, give their patrons to understand that their services are valuable, and we will then have forsaken the paths that are leading us to inevitable, voluntary bankruptcy.

SOME PHASES OF INTESTINAL OBSTRUCTION.

Read before the Mississippi Valley Medical Association, Nashville, Tenn., Oct. 11-16, 1898.

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Were I asked to name the pathology of the abdominal cavity demanding surgery for its relief that was followed by the highest post-operative mortality, I should unhesitatingly say acute intestinal obstruction.

The causes of this condition are so many and varied that to classify them would require a whole volume. Modern methods of diagnosis, in skilled hands, have led to the saving of many cases that a few years ago would have been lost by the delay in resorting to the proper treatment. While the diagnosis of this condition can usually be made early, there are some cases in which the pathologic manifestations are so insidious or vague that their detection requires time and much careful clinical analysis. A very important pathologic fact must be accepted by the practitioner if he would make an accurate diagnosis of the diseases of the abdominal cavity. I refer to the generally accepted view that peritonitis is almost invariably a secondary process. It is important that complications in the progress of a disease should not overshadow the original disease, for the recognition of the cause usually directs the surgery. This is not always true, as long-neglected cases may owe their gravity to later complications. This should be a plea for more painstaking efforts at early diagnosis.

Most cases of acute intestinal obstruction are marked by more or less collapse, the intensity of the shock depending upon the powers of the individual to withstand pain, or upon the extent of the traumatism and the location and completeness of the obstruction, as well as the acuteness of the attack. One individual will possess, in his nervous make-up, a peculiar lack of impressionability to pain, while another will manifest profound collapse and shock from slight nerve injuries.

In arriving at a conclusion from the interpretation of pain, these possible idiosyncrasies should be given proper weight and careful thought. An obstruction in a small intestine will, as a rule, be accompanied by greater shock than a like process in the colon; this is partly explained by the intimate connection of the nerve-supply of the small bowel with the great abdominal ganglia. A large amount of the bowel being constricted implies a greater damage to the sympathetic system; this is true of the small bowel, especially, as its abundant supply of nerves, its thin walls and usual empty condition permit its firmer and more complete compression. An opening just large enough to permit a small bowel to creep in will be much more likely to firmly compress the gut than a larger opening through which a colon had found its way.

The very young withstand injuries to the nervous

system badly. The more nearly the injury approaches a crush of the structures involved, the greater the collapse; in other words, the very acute cases are attended by the most shock.

A correct understanding of the causes of this collapse aids in locating the site of the injury and its character in many cases. The pain must of necessity vary in individual cases according to the location, character, completeness or acuteness of the attack. The first pain is due to the direct injury to the nerves constricted; next come the pains of increased peristalsis. This pain has not only a peculiar character of its own, but adds to the constricting pain at the site of obstruction, by its tugging away at the compressed gut, trying to force its contents past the obstructed point. These peristaltic storms are intensified by the reflex action from the site of nerve injury, so that in many cases the intestinal movements are very vigorous and extremely painful. In thin subjects and in chronic cases, these efforts of the bowel to overcome the obstruction can be plainly seen through the abdominal walls. In case the obstruction is complete, the pain will be constant, yet periods of intensified suffering will repeatedly come on. If the obstruction is only a partial one, the liquid contents and gases will be forced past the constriction, and for a time the peristaltic pains will subside and the patient will be free from suffering until more gas is generated or another reflex wave is excited.

The character of and the intermittence of the pain from the peristalsis may aid in diagnosing the nature of an obstruction, as the severity depends largely upon the completeness of the closure of the gut's caliber. In intussusception, the closure, as a rule, is not complete early in the case, hence the peristaltic wave would not be so severe. Early in these cases there is no tenderness on pressure, in fact, firm pressure is not only well borne but may give relief from the pain. After the case has progressed several days, or if a peritonitis should set in, the pain on manipulation in the region of obstruction would be most intense.

Many cases of intestinal obstruction will develop a septic peritonitis in its progress. An over-distended gut, with the resulting thin walls, permits the ever-present septic micro-organisms to pass through into the peritoneal cavity, or the bowel wall may perforate above the site of obstruction or slough at the location of the constriction. An enema may increase the pain by exciting an increase of the peristalsis, when the obstruction is in the small bowel. This has often led to mistakes in locating the obstruction in the large gut, the surgeon believing that the increased suffering was due to a distension of the colon at the site of obstruction.

All pain may cease just before death, as the bowel will often become paralyzed from over-distension or local toxemia, or the gut may rupture and relieve the intra-intestinal tension, and thereby cause the pain to cease. The location of the pain does not necessarily imply that the obstruction is at the site of pain. In many cases the pain will be referred to a point two inches above the umbilicus at the site of the solar plexus, while if the obstruction is located in the small bowel and there exists no adhesion to immobilize the intestine, the coil of gut obstructed may be constantly changing its position. If the obstruction is in the colon, the location of the pain might be of some service in making a diagnosis of the bowel involved, as the colon does not have as much latitude of motion as the small gut, besides a pain having its origin in the colon is not as likely to be referred to the solar plexus, as its sympathetic nerve-supply is not as directly and intimately connected with that center; yet, with the lesion in the colon the pain is often manifested close to the umbilicus. The falsehoods uttered by pain and the truths untold by opium have been very expensive to human life in the management of intestinal obstruction.

When a gut is obstructed or strangulated, that portion of the bowel above the lesion becomes dilated. Brinton has demonstrated that there exist two currents in the contents of the bowel above the site of obstruction; one closely hugging the wall of gut, going in a downward direction, the other passing upward in the center; this mechanism is brought about or increased by the increased peristalsis in the dilated gut.

The contents of the intestines do not become feculent until near the ileocecal valve, hence the vomiting of fecal matter would imply an obstruction in the colon or the lower portion of the ileum. An obstruction in the upper jejunum is usually attended with profuse vomiting of thin bile-stained fluid, non-feculent in character, yet by rapid decomposition or long distension the odor of the contents of this portion of the bowel may become very offensive. Early vomiting may be due to a reflex condition, engendered by the pain at the site of the lesion. This sign of vomiting has no special diagnostic significance.

As a cause of the high post-operative mortality in these cases may be mentioned the uncertainty of the diagnosis in the hands of many, and the prolonged and harmful use of cathartics, both agents of delay and disaster in cases of acute intestinal obstruction. Many practitioners will stand idly by, waiting for the uncertain action of cathartics in a patient in whom a diagnosis of an acute intestinal obstruction has been made; many will be found who will oppose any operative procedure for the relief of an obstruction unless that obstruction be due to strangulated hernia, yet a similar or worse process with more grave symptoms may exist within the peritoneum without a single plea for surgical relief. The high mortality following surgical operations for this condition has led to an unjust condemnation of the surgeon in many cases; in the family physician hesitating to recommend or endorse a procedure promising so few recoveries and so many deaths. This mortality will be greatly reduced as soon as the operation is placed early in skilled hands.

The previous history of the case, where it is enshrouded in mystery, may make the way clear to a positive diagnosis, as a history of old, inflammatory attacks would point to the presence of adhesions, bands, etc.

Every case of intestinal obstruction is an individual, and the diagnostic acumen of the surgeon will often be taxed to tell whether a given case is of a special variety, though it is often possible to predict, with a certainty, the character of the obstruction before operating. The history, in many cases, will aid the surgeon, and in others, mislead him. The character of the pain, its duration, and its location, may come to the surgeon's assistance, but will nearly as often prove misleading. Diffused pain and tenderness indicate peritonitis. A sudden paroxysm of pain in a patient suffering with a obstructed bowel often means a perforation of the gut and an extravasation

of feces and gas into the peritoneal cavity; especially is this an indication of perforation if it is followed by a profound collapse and rapid dissemination of the tenderness. A fatal collapse may come on early, and that too, without a perforation. Obstructions from bands, as a rule, are not accompanied by marked meteorism.

In complete intestinal obstruction the vomiting usually becomes feculent after the third day, provided the obstruction be situated low in the ileum or large bowel. The contents of the intestines remain liquid in the small bowel and do not become feculent in character before reaching the lower ileum. Constipation seems to be due more to the paretic state of the bowel below the point of obstruction than from the inability of the contents to pass that point. The truth of this statement is verified by the presence of much fecal matter, in many cases, below the site of the obstruction. Temperature is often subnormal. Even the presence of a peritonitis does not raise the temperature of a collapsed patient.

It is just as illogic to continue giving cathartics and countenancing delay in acute and complete intestinal obstruction, as it is unsurgical to persist in the application of cold and taxis in a strangulated hernia. Can anything be more absurd or unsurgical than not to make a rational effort to relieve these causes by timely surgery? The time to operate on a complete intestinal obstruction is as soon as the diagnosis is made. In the management of these cases the indications for speedy relief must be met promptly. One case may require lateral anastomosis by some of the many methods and devices, another an end-to-end union after an extensive reaction, while a third may demand an artificial one.

To enter into a discussion of the merits or demerits of the many surgical methods for the relief of intestinal obstruction would require too much space for a single article, suffice it to say that the surgery must be early, thorough, and quick. No protracted delays or chronic surgery should enter into the management of an acute intestinal strangulation. These cases stand prolonged anesthesia and slow surgery badly.

A continuous and severe pain means a complete obstruction. A continuous mild pain with exacerbations implies a partial obstruction, as a stricture in a chronic case, or an incomplete closure is an acute intussusception. The location of the early pain does not designate the site of obstruction, unless the obstruction has an acute inflammatory origin.

INTESTINAL RESECTION.

Case 1.—Two years ago I removed a large multilocular ovarian cyst from a lady. The cyst was of slow growth and had been tapped a number of times, followed at each aspiration by a peritonitis. On one or two occasions this came nearly proving fatal. At the time of the ovariotomy, much difficulty was experienced in enucleating the cyst, and many ligatures were required to control the bleeding, from the very vascular adhesions. Her convalesence was uninterrupted. Some months afterward a sinus developed and discharged a number of ligatures, and this sinus has persisted up to this time. Some three or four months ago symptoms of a partial intestinal constriction developed, gas pains, increased vermicular movements and distension of the bowels. The pains would begin to the right of the umbilicus and move about until they arrived at a point just to the right of the old scar and two inches below the umbilicus; here the pains would become more intense until the gas escaped beyond the constriction. The increased vermicular movements could be plainly seen. She was fairly well nourished. One week ago symptoms of an almost complete intestinal obstruction developed, no fecal vomiting, but pains increased, distension more prominent, no bowel movement from salts, calomel, enemas, etc. At this time a fever developed (ptomain poisoning). At my first visit pulse was 96, temperature 102 degrees; no tenderness on pressure, no vomiting. She was cheerful, but looked depressed. She was sent to Scarritt Hospital to be operated on for intestinal obstruction. Anticipating anastomotic operation, I placed in readiness the medium-sized Murphy button. The incision was made in the line of the old scar. The old sinus was curetted and closed by two stitches. On opening the abdomen I at once came to a mass of intestinal coils so firmly and solidly united that it resembled a malignant growth. This mass was immediately below the old sinus tract. It was the right ovary that the original tumor grew from. With great difficulty the bowel was loosened from the parietes, but the difficulty had then only fairly begun, as the mass was adherent on its under side to the sigmoid and pelvic brim posteriorly. The unfolding of the gut was a most tedious process; it was not only folded on itself but was rolled up in the mesentery so that the convex border of the gut in many places was adherent to the mesentery near its spinal attachment. This part of the operation was especially tedious and difficult, as the large mesenteric vessel bled profusely and required ligating.

After the gut was unfolded I found that much of the serous and muscular coat was torn loose, leaving the bowel so ragged that to have attempted its repair would have been surgical foolishness; other coils that were not injured so much were stitched and dropped back. The piece requiring removal was constricted loosely with two large loosely tied ligatures, at a safe distance from the denuded bowel; the mesentery was ligated in sections near the bowel. A triangular piece could not be removed, owing to the shortness of the mesentery. The puckering-string sutures were put in, bowel divided, halves of Murphy button introduced, mesentery cut and resected, piece removed, buttons approximated, and field of operation cleansed thoroughly.

The oozing was so profuse from denuded surfaces that I thought it advisable to pack with plain gauze, leaving the lower angle of the wound open. The patient stood the operation very well. Next day I found her in very good condition; passed some gas during the night; no pain nor vomiting. At the end of forty-eight hours an enema was given; some gas and feces passed. No disturbance, no nausea. At the end of seventy-two hours gauze was removed. Abundance of oozing had taken place. A small piece of gauze was introduced. Liquid food was taken with a relish.

This lady improved from this time on until she left the hospital; her bowels moved naturally, and she left feeling first-rate. Three months later she returned with obstructive symptoms of an aggravated nature. As the button had not been discovered, if it had passed, it was decided that possibly the button was the cause of the obstructive symptoms. I examined her by the aid of X-rays, with the fluoroscope, and made a skiagraph of the pelvic bones and vertebræ, but no button was found, hence I decided that the button was not the cause of the recurrent obstructive symptoms.

INTESTINAL ANASTOMOSIS.

Case 2.—Mr. ——, age 52, white, was taken with severe pains in the right side near the ileocecal region. He had been as well as usual up to that time. This pain was very severe and was soon followed by tenderness, swelling of the right iliac region, accompanied by distension of intestines, elevation of temperature, in fact, the symptoms, as given to me by the attending physician, Dr. Linley, were those of an acute appendicitis. He remained in this condition for several days, when it was decided that an incision be made, which was made by Dr. Linley, liberating a large amount of pus and puriform liquid of a feculent odor. This continued to drain for several weeks when fecal fistula developed at the site of incision. Obstructive symptoms (intestinal) had developed for several weeks prior to the opening of the intestine at the site of operation. A surgeon was called who tried to close this fistula without removing the source of the obstruction. This effort failed, as the incision soon opened and gas and feces continued to discharge. This surgeon diagnosed malignant disease of cecum.

The case was brought to me, and after deciding to do an anastomotic operation, the case was sent to the Scarritt Hospital where, on November 19 the operation was performed. No feces nor gas had escaped from the rectum since the first operation several months previous.

Believing that the colon and sigmoid were contracted from disuse, and anticipating a difficulty in bringing the large de-

scending gut into the field of operation if a median incision was made, I made my incision to the left of the rectus. By so locating the opening I reduced the dangers of infection of the peritoneum from the old fistula. I introduced a catheter into the fistula as a guide to the coil of bowel leading into the mass, plainly to be felt in the cecal region. In this I was not successful. Fluids injected into the rectum failed to reach the fistula, thus showing that there existed an obstruction somewhere in the large bowel.

The fistula was sealed with a large layer of absorbent cotton and collodion before making the left side incision. The mass was examined intraperitoneally and found to be quite extensive. A coil of ileum was selected and traced to the mass; this coil was marked by passing a piece of sterilized gauze through the mesentery. The descending colon was now looked for, but much difficulty experienced in locating it, owing to its contracted condition, and even when found the gut could not be brought up into the field of operation. The sigmoid was now located and by careful work raised so that I thought it safe to begin the anastomotic part of the operation. This was done by first pulling up, by means of the gauze landmarks, the coil of small bowel. The opening in this was made, having put in the usual purse string suture, then one-half of the button was introduced. The opening in this button was filled with vaselin to prevent escape of gases, while the sigmoid was opened in a like manner and the other half of the button introduced. The two halves of the button were now pressed together and a few Lembert sutures, as extra safeguards, applied around the button. The incision was closed in the usual way.

The bowels continued to discharge through a fistula all its gases and feces for nearly a week; this I think must have been due to the button getting blocked with some of the hardened feces or else the colon end of the button fitted the lumen of the contracted bowel so snugly that nothing could get through. At the end of a week the bowels began moving naturally and the fecal fistula diminished. Without the button no one could have completed this operation, owing to the contracted condition of the sigmoid in its almost inaccessible position. This man returned to his home and lived several months, the fistula remaining closed up to the time of his death.

RESPIRATORY PARALYSIS.

REPORT OF A CASE RESULTING FROM ADMINISTRATION OF CHLOROFORM—RECOVERY.

BY D. H. GALLOWAY, M.D.

CHICAGO.

The patient, a doctor's wife, 43 years of age, was taken with a severe pain in the abdomen November 17, but as she had been subject to such attacks at intervals for several years, it was not thought serious. Her condition, however, continued to grow worse until on November 27 her husband became alarmed and sent for me to operate upon her, if an operation was thought advisable. Another twenty-four hours elapsed before I saw her. At that time her face was drawn, eyes sunken, temperature 102, pulse 120, tongue dry, brown and heavily furred. She had been vomiting bile; the abdomen was slightly distended, the walls tense and too tender to admit of any but the gentlest manipulation. Pain was referred to the right side, and as it was thought we had to deal with an abscess, it was considered safer to open the abdomen than to try to make a diagnosis by palpation. It was decided to operate at once, and all preparations were made before the anesthetic was begun, as we anticipated trouble from the latter. The patient was put on the operating-table and the administration of the anesthetic was begun by Dr. Rohlf. The chloroform was administered on a piece of gauze stretched over a wire frame, and from a dropper bottle. The patient did well until partly unconscious, when she seemed to voluntarily hold her breath. I made rhythmic pressure on her chest and in a short time she seemed nearly ready for the operation. At this point it was noticed that her face was getting cyanotic, the chloroform was instantly withdrawn, the head lowered, and the jaw held up, but the cyanosis increased at a rapid rate and became alarmingly great, the lips getting nearly black. Respiration had ceased entirely, but the pulse was fairly good and about 140. Artificial respiration was instituted, and in two or three minutes the face assumed a healthy color and the pulse became as strong as it had been before we began. We stopped the artificial respiration, but there was not the slightest effort at spontaneous respiration, cyanosis rapidly returned, the heart began to perceptibly fail, and artificial respiration was quickly renewed, $\frac{1}{40}$ of a grain of strychnia sulphate and $\frac{1}{100}$ of nitroglycerin, which had been previously prepared, was administered hypodermically and ammonia vapor applied to the nostrils. In a few minutes the blood seemed to be perfectly aerated, the pulse was good, and we again desisted. Again there was no effort at respiration on the part of the patient and cyanosis rapidly returned. We waited a few seconds, but there was no respiration and the heart began to fail. We resumed our efforts with the result that in a few minutes cheeks, ears and lips were a healthy pink and heart beating as strongly as before. Again and again we repeated the above procedure—except the hypodermics—and always with the same results, stopping for a few seconds every few minutes, but quickly resuming when the color of the face began to change. After twenty or thirty minutes there was a feeble respiratory effort, when we stopped and the patient was put in the horizontal position. Respiration slowly became stronger and the patient showed signs of returning consciousness. We then held a consultation as to whether the operation should be abandoned. The unanimous opinion of four physicians was that the patient would die unless she was relieved in some way, and we decided to proceed. Ether was substituted for chloroform, but the respirations did not rise above 10 per minute. The abdomen was opened as for appendectomy, and a large mass of intestines was found adherent together and to the pelvic wall. On cautiously loosening the colon from the wall, I opened a small abscess containing ten or twelve cubic centimeters of pus. The pus was carefully removed with strips of dry gauze, and the appendix found, with the end sloughed away. After making the cavity perfectly dry, we packed it with iodoform gauze and walled off the general peritoneal cavity with the same material. We partly closed the external wound, put on a dressing, and put the patient to bed. When we finished, her respirations were 6 or 7 to the minute and the pulse 160. The patient was covered with hot blankets and surrounded with hot water bags and her body and limbs rubbed vigorously with dry towels, as she was in a profuse cold perspiration. In an hour her pulse was 130, respirations 14, and she was conscious.

A few years ago this patient was prepared for laparotomy on account of pus in the pelvis, but was affected so badly by the ether which was administered that the operation was abandoned and a quart or more of pus was evacuated by the vagina. The pus cavity closed up, but the patient has always remained more or less of an invalid with frequent exacerbations of the abdominal symptoms.

This was an object-lesson in the value of artificial respiration promptly begun and persistently carried out; without it this patient would surely have died. In every case of this kind which has come under my observation, the chloroform has paralyzed the respiration and not the heart.

200 Oakwood Boulevard.

SYPHILIS.

BY JOHN M. BATTEN, M.D.

PITTSBURG, PA.

Remembering the old maxim, that "art is long, experience deceptive, and judgment difficult." I herewith offer some questions which are not clear to my mind in the light of my present knowledge:

1. Is syphilis a curable disease, or is it possible to eradicate all the syphilitic germs from a syphilitic? 2. Is not a person once a syphilitic always a syphilitic? 3. Is the germ of tertiary syphilis the same as the germ of secondary syphilis, and also the same germ that causes the chancre? or is their virulency modified by removal from the chancre? 4. Is it possible to inoculate a non-syphilitic by semen, or secretions from a tertiary syphilitic, and produce a syphilitic chancre? 5. Should syphilitics marry? and when?

In the light of my present knowledge, I believe

syphilis is not an entirely curable disease. While it may be modified by specific and timely treatment, I believe it is impossible to eradicate completely all the germs, so that, I think, a person once a syphilitic is always a syphilitic. A syphilitic may seem to all intents and purposes cured of the malady, yet it is apt to make its imprints manifest on some of his or her children. I believe the germ that produces chancre is the same, and has the same virulency, as that which circulates in the system during secondary and tertiary syphilis, and so long as there is a single syphilitic germ in the system, such a person is a syphilitic, and may convey the disease to others in various ways. For that reason, I would say a syphilitic should never marry. It would be better for the State that he never marry. It has been my experience that a syphilitic, no matter in what stage, or how completely cured he seems to be, is liable to inoculate his wife (or her husband) with the disease, or some of his (or her) children may inherit it.

From what I have said, I am induced to present the following cases of the many that have come under my observation:

Case 1.—P. Q. contracted syphilis when he was 25 years of age. He married at the age of 34 years a perfectly healthy blonde of 21 years of age. When married he had not undergone a regular course of treatment, but was in every way, so far as appearances indicated, a perfectly healthy man, except a leaden appearance that he presented. His kidneys and liver often became torpid. He is strictly a temperate man and takes exceedingly good care of himself. The wife has one child by him, a boy nearly 5 years of age. The child is apparently healthy, well-nourished and large of his age. While carrying the child, the mother presented the characteristic symptoms of secondary syphilis, which was either conveyed to her from the father through the child, or from the semen of the father. Mrs. P. Q. weighed 125 pounds when she was married, but was afterward, through the effects of the disease, reduced in weight to 105 pounds. The child has not (even at this date, Sept. 7, 1898) as yet presented any indication of having inherited the disease. A younger child has all the indications of the disease by inheritance.

Case 2.—B. R., a young man of scrofulous diathesis, inherited from his father who had had syphilis, contracted syphilis, after having a very bad ulcerated leg, when he was 20 years old. I treated him specifically for two years. He then contracted it a second time and underwent treatment as before. He married at the age of 25 years and now has two children who were apparently healthy (at this date, Sept. 7, 1898, these two children are dead, but one has been born since which is now living). The wife so far has apparently escaped the disease.

Case 3.—A. B., a young woman aged 21 years, contracted syphilis and underwent mercurial treatment for one year, after which she was married and had two children, a boy and girl now respectively 16 and 18 years old. They appear to be entirely healthy, although in childhood they presented the characteristic symptoms of inherited syphilis and were so treated. The mother has since died of syphilitic disease of the liver.

Case 4.—A. R., a young man aged 25 years, contracted syphilis and was treated with mercury for a period of two years. He then married and the first child was still-born, having died in utero and become macerated before birth. While carrying the second child Mrs. A. R. was treated with mercury, and the second child was born alive and is still living. She has had several children born alive since, all are now living and apparently well. The mother never contracted the disease from the husband.

Case 5.—J. P., a young man aged 21 years, contracted syphilis. He was treated with mercury for a period of two years. He married at the age of 25 years. His wife bore him three children; one died soon after birth, of imperfect development of the heart, and the second died during the second summer, of inherited syphilis, but the third is still living and apparently healthy. The mother does not show any symptoms of the disease.

Case 6.—A young man contracted syphilis when he was 18 years old and was treated with mercury for a period of two years. He then married and had one child. The child has symptoms of having inherited the disease, although the father and mother are apparently healthy.

Case 7.—A man married a woman with tertiary syphilis. The husband contracted the disease from the secretions of his wife in the form of a urethritis, if not a concealed chancre. The husband never had any buboes, but had all the symptoms of the dread disease.

I have said that syphilitics ought not to marry. As far as the disease, in my opinion, is an incurable one, I would adhere to my stated opinion. If it could be cured in such a way that there could be no possible chance of transmission, I would say marry, but my experience and observation have taught me that syphilis is not a curable disease and is oftener than otherwise transmitted to posterity, even when it has received a scientific and prolonged treatment. If with the view of final eradication of the effects of the disease from the posterity of a syphilitic by proper selection, I would say marry, for I believe it is only through proper selection, and for a long term, that the effects of syphilis can be finally eradicated from the posterity of a syphilitic.

Dr. M. O. Jones, an observing and careful practitioner of Pittsburgh, Pa., relates to me two cases of syphilis that came under his observation: A young man contracted syphilis in 1864. He was treated two years by Dr. Jones, then the young man married a healthy woman, but she bore him no children. The wife, soon after marriage, was inoculated with syphilis by the husband. A man inoculated his wife, whom he recently married, two years after his inception of it and for which he had been treated.

Dr. ——— relates to me a case as follows: N., a male, aged 30 years, in May, 1880, contracted syphilis in the usual way, and for which he was treated or was under the care of Dr. —— ten years. At the end of this period he married a healthy woman. In a year after marriage she became pregnant by her husband, and in three months had a miscarriage. Shortly after, the Doctor noticed she had syphilis in its worst form.

Duffield reports a case of syphilis, in the *Medical News*, Sept. 15, 1894, where the husband married a woman nine years after his inception of the disease. His wife and a child which was afterward born were infected.

There are physicians who think differently, for what follows is about what they doubtless believe: "But recently I heard a gentleman make the statement to a medical society that he had treated a patient for syphilis ten years before the patient's marriage, and after the marriage the patient infected his young wife. To me the statement was absurd. I did not deny the contagion, but did the source. The belief by some that the contagious character of syphilis persists for decades is an error, due to faulty observation or lack of observation. Without entering any further into the polemics, I make the assertion, in language more forcible than elegant, that patients may be rotten with sequelar lesions of syphilis and at the same time indulge in intercourse and procreate offspring, without carrying the disease to the one nor transmitting it to the other." (JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. xxiii, p. 107.)

The above is about a fair example of the teaching of those who believe syphilis is a curable disease. This class of doctors advise two years' treatment of syphilis after its infection, then marry and procreate children and all will be well. How doubly and dangerously absurd. Why do fissure in ano occurring twenty years after the infection of syphilis and 90 per

cases of all skin diseases respond so promptly to mercury or iodid of potash? Why do many scrofulous and weakly children come from syphilitics?

The way of the syphilitic microbe heretofore has been past finding out. Its effects depend much upon the soil in which it operates, the number operating and the power of the leucocytes to prevent their ruthless ravages. I believe a blonde suffers with syphilis more than a brunette. I have never seen a syphilitic microbe (but it has been claimed recently that it has been discovered by Van Niesen), and it is doubtful if anyone else has seen one. We know little of its history, how it acts, or how long it remains in the system. We do know its deleterious effect on humanity when it once gains admission into the blood. The microbe of many other germ diseases, such as scarlet fever, measles, etc., does its work quickly, either to the death of the patient attacked by it or to the surrender to the generalship of the mighty host of leucocytes. After convalescence, in many of these cases, there seems to be no trace of the microbe remaining. It is not so with the syphilitic microbe. Its effects on an individual can be seen many years after its first inception and in his posterity.

It may be admitted that the type of syphilis of the present is of a milder form than formerly. If so, it is because the people have been either directly or hereditarily well syphilized. Still, there are yet different types of the disease, or evidences of its acting differently on different constitutions. I have seen and treated cases where, as yet, the effect of the disease has been controlled or lies dormant, for there have been no traces of the disease either in the children or parents. Yet in other families I have observed traces of it still existing both in the parents and in their children. I have never treated a case of syphilis in which the vitality of the person so affected was not lowered, and it is doubtful whether there has been a case in which the person so affected did not have to take a retrogressive step to a lower plane of development, intellectually, morally and physically, and it is probable that such a person would never rise to a plane he occupied before being inoculated. Just what time the syphilitic microbe departs from the body, or the form it assumes in injuring the constitution many years after the inception of the disorder, has not been indicated. Is not the disease, after it enters the blood, liable at any time during the lifetime of the patient to break out like a volcano? What condition of the blood causes diseases of the mucous membranes and the nervous system many years after the original disease? These are pertinent questions, and questions that must be answered before we can make such sweeping assertions "that a patient may be rotten with the effects of the disease and yet no harm come from it," for the microbe has departed "and there is no danger of imparting it to others." What made the patient rotten? Does not a patient recover when the cause is removed? This has been my education by experience, which is the best teacher.

Again, will not these conditions of the blood in tertiary syphilis, which cause such destructive constitutional changes to take place, if transfused to a non-syphilitic, produce the same destructive conditions in him? Is not the offspring of a parent or parents a very good register of the health of the parent or parents? Could we expect to breed a strong people from syphilitics? When the gonococci may linger for so many years in the genito-urinary tract, is it more reasonable to expect the syphilitic microbe, which has a much more extended territory in which to exist, will relinquish its possession sooner? Why is it that syphilitic women are constantly syphilizing men who copulate with them, and vice versa?

Fifth Avenue and Ross Street.

PLEURITIS GONORRHOICA.

REPORT OF A CASE.

BY J. RUDIS JICINSKY, A.M., M.D.

CEDAR RAPIDS, IOWA.

In discussing the question of the causes of secondary pleuritis, and especially of the connection existing between gonococcus (Neisser) and the diseases of the lungs, heart, joints, conjunctiva and serous membranes,[1] it is not my intention to review the work of a large number of observers who have written on the subject during the last few years. It is not even my intention to add anything new on this subject, and, without forgetting the observations of many who have worked in this field, I will simply confine my remarks to what I have observed myself in an especially interesting case. Our text-books say that secondary pleuritis occurs during an attack of pneumonia, pericarditis, rheumatism, variola, scarlatina, Bright's disease, or malarial fever, and chronic pleurisy follows an attack, or is the result of tuberculosis, Bright's disease, or alcoholism. Pleurisy is almost invariably excited by certain micro-organisms, which find access to the pleural membrane. (Lyman.) In our case it was gonococcus attacking the membrane.

Case 1.—Chas. P., male, aged 24, was sent to me for X-ray diagnosis of the chest, by one of my colleagues, who suspected pleurisy as the result of tuberculosis. The disease began with a chill, followed by lancinating pains near the nipple and in the axilla, on the left side, aggravated by coughing and breathing, associated with slight tenderness on pressure. Respiration was rapid and shallow—40 to 42 per minute. There was a short, dry, hacking cough in the beginning, later on harassing, with copious sputum, night sweats and fever; loss of weight; pulse compressible but frequent, ranging between 110 and 120 beats per minute. When dyspnea became aggravated and the cough more distressing, with the cardiac action embarrassed, the countenance wearing once an anxious expression, the aspirator was used, but with a negative result. Inspection: deficient movement of the left side. Palpation: feeble fremitus. Percussion: dulness. Auscultation: vesicular murmur associated with a grazing friction sound. Family history good. Such was the record given to me.

Patient being exposed to the X-ray, took all his clothes off. The apparatus was connected and the switch closed. The current passing through the aluminium plate in the tube gave the green light, while the X-ray was observed with the fluoroscope. In the next moment, when the fluoroscope was laid aside, I happened to look down on the generative organs of our patient, which in the dark room, under the effect of the green light, looked somewhat suspicious. Examination was made and swelling found, outlined at the back of the scrotum and considerable in extent, and also tenderness. On questioning patient he first denied ever having had venereal disease, then said that he had "slight" discharge from the lips of the reddened meatus many months ago. This stopped without treatment, but now the swelling came on, characterized sometimes by pain passing along the cord to the loins. The characteristic symptoms rendered the diagnosis easy, proving only the essential requirement of complete, most careful and thorough examinations of all our patients, which in this case was nearly overlooked. At that moment I never thought that this condition had anything to do with the disease of the lungs.

As to the X-ray examination of the lungs of our patient, it was demonstrated again that in the Roentgen rays and fluoroscope we possessed accurate means for diagnosticating changes of lung tissue. They were used in this case, as in other experiments of mine, as factors corroborative of results arrived at

[1] Rheumatismus Gonorrhoicus, Endocarditis Gonorrhoica, Pleuritis, Gonorrhoica, etc. "Specielni Pathologie a Therapie Vnitrnich Nemoci." Dr. Emmerich Maixner.

by auscultation and percussion, enabling us to recognize more fully and accurately the degree, position and relation of areas diseased. In our case there were no spots of isolated foci over the lungs, no haziness indicating tuberculous infiltration, no decided shadows of consolidation and no circumscribed spots of bright reflex, surrounded by dark rings, which would point to cavities, but there was darkness on the left at the lower portion of the lungs, indicating pleuritic thickenings. Numerous microscopic examinations of the sputum showed no "bacilli tuberculosi," but micrococci gonorrheæ or gonococci (Neisser) in great numbers.

Various theories are offered to explain this condition in secondary pleuritis and its relation to gonorrheal infection, but none of them have yet proved satisfactory. In some cases there seems to be no doubt that the gonococci are carried through the blood and lymphatics to the pleura, finding there, as in this case, a *locus resistantiæ minoris*, for although these micro-organisms have not been discovered in the blood, they have been found in the sputum, and their identity has been fairly well established, as in our case, through their behavior with stains, and through culture experiments on human blood serum, where they gave semblance of a growth, the temperature being between 33 and 37 degrees C. In three days we had a very thin, almost invisible, moist yellowish growth, seeming to be composed of little drops. Under low power, characteristic small processes shooting out from the smooth border were seen. Transferred to fresh media they gave same results.[2]

The patient, being a traveler, was confined to bed immediately, the epididymitis treated with elevation of scrotum and application of evaporating lotions. When acute inflammatory symptoms subsided, the testicle was strapped and patient finally allowed to go to California for substantial rest. All other symptoms of pleurisy under treatment were much better, patient improving. The pleuritic process terminated in eight weeks, patient being convalescent from that disease. Râles were still present, but were higher pitched, and percussion note was far from satisfactory. I would not have been surprised at some other complication, but then another curious feature manifested itself; the discharge from the meatus of the penis returned and continued for several weeks—or at least it was so reported to me—showing that gonorrhea in our case was not only a chronic, specific and infectious disease, with local manifestations, but with a marked systemic reaction.

Hyde, speaking of such cases, says that they seem to be essentially pyemic, and to be due to infection with pus coccus, which gains admittance to the circulation through the urethral or other epithelium that has been damaged or destroyed by the gonococci. Anders, describing the etiology of endocarditis, states: "Acute endocarditis may be of gonorrheal origin. In the inflammatory products of this condition, Hering found the gonococci, as has also Councilman, in the heart muscles. As the result of invasion of the blood by the gonococci, suppurative arthritis may also be occasioned, and now the clinical picture is that of general septico-pyemia. I observed one case in which pleurisy was associated, and among the numerous widespread complications, iritis deserves special mention."

Dr. Aug. Fisher, Chicago, refers in *Ces. Lekarske Listy*, 1898, to a similar "Case of Secondary Pleuritis as a Result of Chronic Gonorrhea."

A man, aged 26, single, machinist, vigorous, family history good, had gonorrhea four years ago; was never sick before. In March he gave all the characteristic symptoms of pleurisy. Two weeks later aspiration was made, with no result. He had occasionally slight discharge from the meatus, as finally admitted, but these stopped during the present disease, which in the third week was marked by increased cough, followed by copious purulent expectoration. Microscopic examination of the sputum revealed a large number of gonococci (Neisser), but no bacilli tuberculosi. In October, when the symptoms of pleurisy subsided, and the patient was feeling well, the discharge from the meatus showed itself again, and the case was referred to a specialist.

I have to say again that my interest in our case arose altogether independently of any intention to investigate the etiology of secondary pleurisy, as regards gonococcus. It was only by accident during the study of the X-ray diagnosis in the diseases of the lungs, that I was led to consider the possibility of a relation of an irritant called "gonococcus"—what is in the name?—or an irritant called "bacillus tuberculosis;" both are and remain to be irritants if finding a soil in the lungs. This subject presented itself to me, as it seems to have presented itself to the minds of others. From the beginning it seemed evident that in investigating this question one was bound to follow the rules usually followed in bacteriologic investigations, but the end, from a pathologic standpoint, remains the same, just as well as the problem, how and through what channels the gonococci went up to the pleura and, irritating the same, caused hyperemia, exudation and then resolution. Malsbury makes a good point in this direction, saying: "The organisms, unless arrested, are prone to multiply, to spread into new territory and transmit their toxic products to the general circulation."[3] If we had had in our case bacilli tuberculosi, the mode of infection could be explained through the respiratory organs, etc., but with gonococci we seem to be at sea.

In reporting the case, I fully realize that one or two cases are very little to build on, but it shows that nature sometimes adapts itself to newly arising circumstances, even at the expense of science, bringing our terms "inflammation" and "infection" very close together.

[2] Tonton: Der gonococcus und seine Beziehungen zu gonorrhoischen Processen. Berliner klin. Woch., No. 21. 1894. Venereal Diseases: Prof. Dr. Franz Mracek.

[3] Gonorrhea in Male; Journal Am. Med. Assn., July 16, 1898.

THE FUNCTION OF BRÜCKE'S MUSCLE.

BY DR. V. FUKALA, WIEN.

Translated by J. W. SHERER, M.D., Kansas City, Mo., from Arch. f. Augenheilk., Bd. xxxvi, p. 65.

In 1864 Brücke published his views in regard to what he calls the "ciliary muscle." As is well known, this muscle consists of two parts, one circular, and one longitudinal. The circular portion escaped his observation, but he correctly apprehended the longitudinal part, and to it his name has been applied. Brücke first demonstrated that the ciliary muscle was unstriated. It had hitherto been designated the "ligamentum scleroticum," "plexus ciliaris," or "ganglion ciliare," according to the different views of its structure. Brücke failed to correctly understand the function of the longitudinal muscle, and this error, to a degree, still prevails. In his "Anatomic Description of the Human Eyeball" he states: "the muscle discovered by me extends from the corneo-scleral junction to the roots of the ciliary process." Unfortunately he did not follow the muscle farther into the choroid, and consequently there escaped him the important fact that it extends nearly to the posterior ocular pole. Brücke's conception that the muscle had the function of drawing the choroid anteriorly is erroneous. He expressed himself regarding this as follows: "This muscle draws the choroid tightly to the retina and vitreous, and reduces the closed space formed by the cornea, choroid and itself. At the same time it draws forward the zonula Zinnii, which is united with the ciliary processes, reducing the tension between the lens and ciliary processes. Whether this causes a forward movement of the lens can not be stated, since we do not know how far such movement would be permitted by the aqueous." Brücke appeared inclined to bring the action of his muscle in

consonance with Keppler's views of accommodation in stating that its contraction and relaxation moved the lens forward and backward. He suggested the name "tensor choroideæ."

Further study by Müller (1857) and Schultze (1867) perfectly elucidated the anatomy of the muscle. We now know that the muscle consists of two parts, an anterior, circular part called "Müller's muscle" and a posterior, longitudinal part called "Brücke's muscle." It is beautifully described and illustrated in Graefe-Saemisch's Handbuch, i, 1874, p. 170. Although the anatomy was so thoroughly worked up, ophthalmologists were still in doubt as to the function. There was not the slightest doubt that the anterior part performed the labor of accommodation. The function of the posterior part has remained unanswered to date. Brücke's views have been given. Cramer, Helmholtz and most other scientists who thoroughly understood accommodation considered that Brücke's muscle assisted accommodation by drawing the choroid forward and relaxing Zinn's zonula. It is so given in the works of most authors, and at first glance is a very enticing theory, but on closer scrutiny serious objections to it appear, particularly if thought is taken of the condition of the two parts of the muscle in the different states of refraction, as first indicated by Iwanoff.

Let us first look closely at the anatomy of the normal muscle. The longitudinal portion extends from the corneo-scleral junction almost to the posterior pole in unstriated bundles which anastomose by lateral processes, the mere presence of which argues against the simple function of drawing the choroid anteriorly. Only in the anterior 2.5 mm. of their course do these fibers not anastomose.

Moreover, Schultze discovered fibers running transversely to the longitudinal ones, and anastomosing with them by numerous star-like branches (Jeropheeff). All researches duly considered, we arrive at the conclusion that Brücke's muscle constitutes a dense meshwork spread over the entire choroid and vitreous, forming what Iwanoff called "Schultze's net." As to the function of this net, I would compare it with the network around a balloon. In both the net prevents overdistension and bursting. *Brücke's muscle supports the globe in every direction, and more especially in the antero posterior diameter.* The six extrinsic ocular muscles, particularly the obliqui, exert a strong pressure to increase the length of the bulb. This would gradually develop myopia.

I believe that the gradual expansion of buphthalmos depends on an alteration in Brücke's muscle. The contraction of the muscular network *restrains expansion in all directions, and strongly resists increase in length* of the eyeball. Otherwise the normal eye would become myopic, and the myopic eye grow worse. *Brücke's muscle is the direct antagonist of the extrinsic muscles* and may be called the "contractor bulbi."

Let us see how my views agree with Iwanoff's findings. *In the norm* Müller's and Brücke's parts of the ciliary are *equally developed.* If considerable demand is made upon accommodation, a corresponding demand upon Brücke's muscle is necessary, in order to prevent distension and elongation of the eyeball and the development of myopia. *In hypermetropia* Iwanoff found *Müller's* part *hypertrophied* and *Brücke's* part *atrophied.* This indicates that accommodation is vigorously exercised in the hypermetropic eye, and that Brücke's part lies in disuse, since elongation of the ball would not be inimical but would approach emmetropia. *In myopia* the condition of the muscle was found *reversed. Brücke's* part was *hypertrophied, Müller's atrophied.* This is most naturally explained by the fact that the myopic eye needs accommode little, but must guard against elongation and increased myopia. Iwanoff (v. Graefe's *Arch. f. Ophth.*, xv, 3) has expressed his astonishment over this remarkable condition of the two parts of the ciliary muscle. He accepted Donder's theory of accommodation, and thought the whole muscle should *hypertrophy* in *hypermetropia* and *atrophy* in *myopia.*

My view of the function of the ciliary muscle explains this condition in a simple and natural way. However, it combats the opinion of those ophthalmologists who contend that Brücke's muscle assists accommodation. Iwanoff first recognized the fallacy of this theory. "The theory of accommodation which we at present accept (*gegenwärtig geltenden*) is in nowise confirmed, etc." (v. Graefe's Arch., xv, 3, p. 289). If it were accepted, we should be unable to explain why the longitudinal fibers are atrophied in hypermetropia—a condition in which an inordinate demand is made upon the accommodation at all times. On the contrary, if it were correct, we could foretell the hypertrophy of these fibers. How otherwise are we to explain hypertrophy of Brücke's muscle in high myopia, in direct ratio with the degree of error present? The highly myopic eye needs no accommodation on account of the great approximation of its far point. This circumstance speaks with the convincing logic of physiologic fact for my theory, in opposition to those who take the view that Brücke's muscle participates in accommodation.

No argument can be made in favor of Henke's theory of negative accommodation, which states that the retina is drawn nearer to the lens by the action of Brücke's muscle. Iwanoff, who was at first inclined to accept this statement, later admitted its absurdity and pointed to the fact that myopes practically never have clear distant vision without the aid of concave glasses. The posterior pole is the only place where the choroid is not covered by the meshwork. Here the sclera is dependent on its own elasticity unsupported. Consequently, just here the ocular tunics most frequently give way to the pressure exerted by the extrinsic muscles; here is a favorite site of staphyloma, and here occur the posterior pathologic processes of high myopia.

From the foregoing it is evident that the efforts of many French and German surgeons who, about 1842, tried to cure myopia by resecting the ocular muscles was not entirely unfounded, although they appear preposterous enough.

310-11 Ridge Building.

SOCIETY PROCEEDINGS.

Chicago Medical Society.

Clinical Meeting held Jan. 11, 1899.

Dr. ARTHUR D. BEVAN, president of the Society, occupied the chair.

Drs. A. E. HALSTEAD and MAXIMILIAN HERZOG reported

A CASE OF LYMPHANGIOMA CYSTICUM.

The parents of Maud Taylor, a child aged 22 months, consulted Dr. Halstead in August, 1898, concerning a growth that had developed in the left side of her neck. Shortly after her birth they had noticed a tumor, about the size of an English

walnut, just below and external to the angle of the lower jaw. This had gradually increased in size until it occupied the whole lateral aspect of the neck, extending from a point on a level with the lobe of the ear, to the sternoclavicular articulation, and backward nearly to the median line. Anteriorly, it overlapped the larynx above; below, it did not reach the trachea.

The tumor was soft and fluctuating, and appeared to be made up of a number of parts more or less closely united, and varying in size from a small orange to that of an almond. It had never been painful to the touch and did not present any signs of inflammation. A hypodermic needle was introduced into the upper part of the tumor, and a small amount of straw-colored fluid withdrawn. A diagnosis of lymphangioma cysticum was made and the child sent to the Chicago Policlinic hospital for operation.

Under chloroform anesthesia an incision was made over the anterior border of the sternomastoid muscle from the angle of the jaw to the sternoclavicular articulation. At the upper part of the incision, projecting from beneath the sternomastoid, the tumor presented as a thin-walled cyst. It was found to extend anteriorly in close relation to the lower border of the inferior maxilla, the submaxillary gland and the mylohyoid muscle. In order to free the upper limits of the cyst it was necessary to make a transverse incision along the lower border of the inferior maxilla. The upper part of the cyst was then separated from its attachments. Behind, it was covered by the sternomastoid, and below it was attached to the internal jugular vein. A second cyst placed below this extended downward and forward and covered the lateral and anterior walls of the larynx. A third cyst, about the size of a small orange, and connected with the other two, extended downward and backward beneath the sternomastoid. Three or four cysts of the size of an almond formed a chain along the jugular, down to its junction with the subclavian.

These tumors were all oval in shape, with thin, almost transparent walls. They were arranged in chains, each connected with the one below and above. At some distance from the larger cysts, forming rosary-like series, were numerous cysts not larger than peas. The cysts were all removed by carefully dissecting them free from their attachments to the surrounding tissues. Considerable difficulty was experienced in removing the uppermost one from its position behind the angle and ramus of the lower jaw, where it was adherent to the internal jugular vein. The lower and posterior cyst was removed after the sternomastoid had been divided. In removing the anterior cyst the sac was ruptured. All the others were removed intact. On examination of the cysts after removal, they were found to be closely united, forming a series of cavities, some of which opened freely into the next above or below. The most anterior of the large cysts, the one ruptured during the operation, was about the size of a hen's egg and contained a dark fluid blood. At the time the cyst was ruptured, the escape of this bloody fluid led the author to think for an instant that he had opened a vein of considerable size. The fluid contained in the other cysts varied in color from a light amber to a dark brown. In some of the smaller cysts a gelatinous substance was found. In the cyst beneath the sternomastoid muscle there was a lymphatic gland about the size of an almond, which was soft, and the cut surface of which was grayish-yellow in color, similar in appearance of a tubercular lymph gland in the early stage of inflammation.

The interior of the cyst presented a mottled bluish-yellow color. The lining was smooth and glistening. In the larger cysts and attached to their walls, several small cysts were found, some of which opened into the larger cysts. In all the cysts the walls were extremely thin and delicate, so that it was only with the greatest care that their extirpation could be accomplished without rupturing them. The wound healed quickly and without any incident worthy of notice.

Microscopic examination.—The sections (from paraffin-imbedded material) which were made from the cyst wall happened to be quite oblique, so that a transverse diameter through such a section is very much larger than the true radial diameter through the cyst wall, as it really was. This circumstance proved to be a rather fortunate one, because it showed some details more clearly than would have otherwise been the case. In favorable places, it can be seen that the cyst wall is lined by a layer of flat endothelial cells. Next to this comes a zone rich in young connective tissue cells of a round and fusiform type. The round cells are of the character of lymphoid cells; in some places they were quite thickly crowded together. In this zone, also, there are found a considerable number of giant cells, which are more or less irregularly polygonal in general outline, and which contain from twelve to twenty, and in some cases more, intensely staining vesicular nuclei. The latter are centrally located and are surrounded by quite an abundant body of cell protoplasm, which is finely granular and stains deeply with eosin. Each giant cell, as it appears, lies in an open space, attached only to part of the circumference of this space. On careful examination it can be seen that the open space is the transverse or oblique section of a small lymph vessel which, except at the place where the giant cell it attached, is lined with flat vascular endothelium. The giant cells are evidently derived from the vascular endothelium. That this has undergone proliferative changes may also be seen in some places where lymph-vessels contain desquamated endothelia. In this manner the inner zone of the cyst wall, composed of lymphatics, lymphoid and other connective tissue cells, gives unmistakable evidence of proliferative changes, and one can see that the cystic tumor is indeed a neoplasm, and not a mere lymphangiectatic formation.

The zone next to the one just described, the middle zone of the cyst wall, contains a more uniformly fusiform connective tissue, which is rich in thin-walled blood vessels. There was found in one place, arising from a small capillary, a solid bud of endothelium. So it appears that there has also been going on in the cyst wall a new formation of blood-vessels. Klebs calls attention to the fact that in lymphangioma we frequently find an extensive proliferation of blood vessels, sometimes to such an extent that there is formed a mixed tumor, a hemolymphangioma. This, however, is not the case in our lymphangioma, where the new formation of blood vessels is kept within moderate limits. The outer zone of the cyst wall is formed by old fibrous connective tissue, poor in nuclei, and by areolar tissue. With reference to the histogenesis of this tumor, the following opinion may be expressed: There was present a congenital anomaly of the deep lymphatic vessels of the neck. In the development of the child these lymphatics underwent extensive proliferative neoplastic changes. The collection of lymph in the newly-formed vessels became sufficient to create dilated cystic spaces, and in consequence of pressure some of the partition walls in the multilocular cyst became atrophic, and gave way, so that the tumor finally consisted of a small number of cysts only. Into one of the cysts there occurred secondarily a hemorrhage from dilated or ruptured thin-walled blood-vessels.

Cystic tumors of lymphatic origin, known as lymphangioma cysticum or lymphangioma cystoids, are comparatively rare, and their histogenesis and etiology are by no means as yet perfectly understood. There can be no doubt that some of these tumors are true neoplasms, while others may only represent lymphangiectases. We can not always decide the true character of these cystic tumors since, when they have reached a certain age and size, the histologic examination fails to furnish the evidence whether or not true proliferative neoplastic changes have taken place. That most cases of lymphangioma cysticum are true neoplasms has been shown by investigators whose material was in a favorable stage of development for accurate observation. Tilger, for instance, reports a case of a small cystic lymphangioma in which he could demonstrate proliferative changes of the lymphatic endothelium with new formation of lymph-vessels. Wegner, who was one of the first to thoroughly investigate this subject, considers that there are several ways by which lymphangiomata may originate: 1. As a consequence of an obliteration of the efferent lymph-vessels, either by compression or inflammation, or as a result of some congenital occlusion. 2. Active proliferation of vascular endothelia forming new lymph-clefts opening into pre-existing lymph-spaces (homoplastic neoplasia). 3. By the formation of granulation tissue in a connective tissue matrix, the former undergoing retrograde changes. Into the spaces so formed lymphatics penetrate (heteroplastic neoplasia). Wegner's view that an occlusion of existing lymph-channels may lead to true neoplastic lymphatic changes is disputed by Langhaus, Esmarch and Kulenkempff, and Nasse. The latter, in his exhaustive article based upon studies made on material from von Bergmann's clinic, reports, among others, five cases more or less analogous to the case reported in the present paper. Nasse maintains that a complete occlusion of the efferent lymphatics as the cause of lymphangiomata has never been demonstrated, but he concedes that there may be present a certain degree of lymph stasis which, however, can not be looked upon as the essential cause of tumor formation. The same author supports the view of Virchow that the lymphangiomata are analogous to hemangiomata, and he calls attention to the fact that the former, like the latter, are usually found in the skin and subcutaneous connective tissue of the face and neck. He also calls attention to the fact that many of the true lymphangiomata are either congenital or appear quite early in life, thus showing that they are probably always due to embryonic anomalies or malformations, which have a

tendency to later undergo neoplastic changes. Wegner, as well as Nasse, reports cases where the contents of cystic lymphangiomata were not exclusively of a clear lymphatic, but at times of a bloody, character. Both believe that the advent of blood into such a cystic tumor is not of primary but of a later secondary occurrence.

Dr. HALSTEAD also reported a case of

GUNSHOT WOUNDS OF LIVER AND KIDNEY.

W. L., American, aged 17 years, was admitted to the Cook County Hospital Sept. 26, 1898. One hour and a half before admission he was shot from behind, the weapon used being a 38 caliber revolver. Examination showed him to be extremely pale, surface of the body cold, with a pulse of 158, and a temperature of 98; respirations 31. The wound of entrance of the bullet was found 2½ inches to the right of the spinal column, just below the twelfth rib. From it there escaped a considerable quantity of blood. Just to the inner side of the right mammilary line, close to the sternum, the bullet could be felt immediately under the skin. He complained of severe pain in the abdomen, which was increased during each inspiration. It was evident from the examination that a large amount of blood had been lost, and that the hemorrhage was still progressing. Judging from the location of the bullet wound, it would appear that the right kidney and liver were injured, and that probably the liver was the chief source of hemorrhage. Accordingly, after the usual preparations, an incision was made, parallel with, and just below the costal cartilages of the right side, about 8 cm. in length. This was subsequently extended downward and backward toward the anterior superior spine until it was 12 cm. long. On exposing the lower border of the liver, in front, a wound about three fourths of an inch in length was found on a level with the twelfth. There was a slight hemorrhage from this wound, which was easily checked by a temporary tampon of gauze.

On opening the abdomen it was found to contain a large amount of fluid blood, and a considerable quantity of clotted blood. There appeared to be a continuous hemorrhage from some place deep in the right side of the abdomen. Search for the source of this hemorrhage showed it to be from the right kidney, which, when exposed, presented a wound near the hilus, which readily admitted the tips of two fingers. Jets of bright arterial blood could be seen coming from this part of the kidney. Attempts were first made to check the hemorrhage by packing, and then by securing the bleeding vessel with forceps, but these failed. As the patient was rapidly failing from the great loss of blood, it was deemed best to remove the kidney. This was done by loosening it from its attachments, and then securing the pedicle, in which was the bleeding vessel, with a forcep, and subsequently applying a catgut ligature. The pedicle was then divided, and the kidney removed. After this, fresh blood continued to well up from the right side of the abdomen. On examination there was found a wound of the inferior surface of the right lobe of the liver, about 3 cm. in length, from which the blood poured in jets. This was controlled by packing with gauze. The abdominal cavity was then cleansed by sponging, after which the intestines, stomach and mesentery were examined for perforations; none were found. The wound was closed, with the exception of its lower angle, by interrupted silkworm gut sutures. Strips of gauze were packed in the retroperitoneal space, occupied by the kidney, and the ends brought out through the lower angle of the wound.

During the operation the condition of the patient was extremely bad. Subcutaneous injection of 300 c.c. of NaCl solution was given, but this did not materially improve his pulse. Intravenous injection of 3000 c.c. was then resorted to, which at once greatly improved the pulse.

The patient was placed in bed, with the extremities elevated. Normal salt solution was administered every two hours, per rectum. During the night catheterization of the bladder gave eight ounces of bloody urine. The patient quickly rallied from the condition of shock, and subsequently recovered. The quantity of urine secreted gradually increased, until on the fifth day it reached thirty ounces. At the end of two weeks, fifty ounces per day were passed. Suppuration occurred in the bullet-wound, and later in the lower angle of the operative wound at the place of exit of the gauze drainage. This delayed healing, and kept the patient in the hospital for two months. At present he has apparently perfectly recovered from the effects of this injury and operation.

Dr. ARTHUR R. EDWARDS reported a case of "Probable Anesthetic Leprosy," and exhibited the patient.

Dr. FENTON B. TURCK showed

CASES ILLUSTRATING THE DIAGNOSIS AND TREATMENT OF MOTOR INSUFFICIENCY OF THE STOMACH.

In the treatment of motor insufficiency without pyloric stenosis, the history of the case, including all the etiologic factors, with examination of all the organs in the body, must be taken into consideration, and the treatment must necessarily vary as the indications of each case demand. In all the cases there are present, however, two pathologic conditions which particularly require attention; 1, the lack of power to expel it within a normal period of time; 2, vasomotor disturbances, especially of the splanchnic area.

The churning power and the expulsive power of the stomach are closely associated, but are not identic, since they often vary in different directions. Properly prepared food is sometimes not expelled, and the churning process continues longer than is necessary, thus throwing extra work on the stomach; and, on the other hand, the expulsion sometimes takes place before the food has been reduced to proper consistency in the stomach, thereby throwing extra work on the intestines. The latter condition is usually produced by an unusual relaxation or weakness of the musculature of the pylorus, commonly known as the patulous pylorus. This condition is indicated by the fact that while the bulk of the food is rapidly expelled, some remnants may remain for a long time in the stomach, adhering to the stomach walls, and there giving rise to putrefaction and the production of gases in seemingly empty stomachs. This condition is also indicated by the regurgitation of the duodenal contents, such as the bile into the stomach. The churning power, on the other hand, may be deficient because of the relaxation or thinness of the muscle walls of the stomach, because these then lack the necessary resistance and power to churn the food and to expel it into the intestine. We may, however, find thickened stomach walls and still have deficient churning and motor power. This is due to the round-cell infiltration and the formation of increased interstitial tissue which interferes with the muscle contractions, resulting in motor insufficiency of the stomach.

The second fundamental condition always associated with motor insufficiency is the vasomotor disturbances, especially of the splanchnic area. This condition and its relation to motor insufficiency have as yet received but very little attention in the investigations and treatment of the disease, yet it is, in the author's opinion, always present in such cases; is moreover an important factor in the production of the motor disturbances, and must be considered an important factor for treatment, not only because of its local effects upon the abdominal viscera, but also because of the serious general disturbances resulting from splanchnic congestion.

The indications for treatment of motor insufficiency of the stomach are: 1. To restore the muscle walls to the normal, or as near normal as is possible, whereby the muscle strength and activity are sufficient to churn the food and prepare it for its prompt expulsion into the intestines. 2. The reduction of the visceral congestion, whereby there is a more equal distribution of the circulating blood throughout the body.

The treatment comprises: 1. The removal, as far as possible, of the etiologic factors. 2. A system of dietetics which gives an adequate functional activity to the stomach, followed by a sufficient period of rest with due regard to the general nutrition of the patient. A large number of laboratory experiments and clinical observations have convinced me that two meals a day of properly prepared and suitable food meets this indication far more perfectly than does the frequent meal system. 3. Medical treatment, or the use of drugs. 4. Mechanic treatment, comprising: *a*, lavage by the direct method; *b*, intragastric douching; *c*, lavage by the indirect method, protecting the mucous membrane from direct contact with the water by means of a thin rubber bag; *d*, pneumatic gymnastics by intermittent distension and contraction of the stomach by the use of cold or heated air; *e*, gyromele, and *f*, intragastric electrization. 5. General treatment; 1. *a*, physical exercise; *b*, H-extension movement; *c*, outdoor exercise; *d*, massage. 2. Rest method: 3. Baths. *a*, hot and cold general full bath; *b*, footbaths; *c*, sitz baths.

A report of some one hundred selected cases of motor insufficiency was then presented. These had been treated and cured during the last four years, by methods originated by the author. A large number of the cases had previously been treated by many other well known methods without results. Among these cases some were exhibited before the society for the purpose of demonstrating the methods by which the results were obtained, and also to emphasize the fact that the cures were permanent, some of the cases having received this treatment one to three years previously, without subsequent treatment.

Dr. E. C. DUDLEY read a paper entitled

SURGICAL TREATMENT OF UTERINE MYOMA, AS ILLUSTRATED BY A SERIES OF CASES.

He offered for consideration two cases in which two tumors,

both apparently springing from the uterus, and each occupying the space between the folds of the right broad ligament, were removed. He briefly described certain points in pathology and operative technic which were peculiar to each case.

Case 1.—Age 60; menopause at 51. The most significant factors in the history were chronic rheumatism, general arteriosclerosis, hypertrophy of the heart, occasionally a faint trace of albumin in the urine, and, as diagnosed upon these manifestations, chronic insterstitial nephritis. Conjoined rectovaginal examination disclosed a semi fluctuating, immobile mass in the right side of the pelvis minor. From this growth there was great distress and steadily failing health. Operation was performed at St. Luke's Hospital, Nov. 16, 1898; the abdominal incision was four inches long. A degenerated cystic tumor, the size of a child's head, apparently springing from the uterus, and occupying the space between the folds of the right broad ligament, was found, removal of which, by enucleation, was tedious and difficult. During enucleation the cyst ruptured, and some thick chocolate-colored fluid escaped. The small senile uterus, which was inseparable from the cyst, was removed with it. A continuous strip of gauze drain was packed into the space between the folds of the broad ligament from which the tumor had been removed and brought out through the vagina. This controlled bleeding from many points which would not readily be secured by ligature; no abdominal drain. On the third day the patient died, comatose. No autopsy could be obtained. All the indications pointed to uremia as the cause of death.

Pathologic findings.—On culture, the fluid gave negative results. Microscopic examination showed the growth to be adenocystoma. The gross indications were that the tumor originated in the uterus and thence developed into the broad ligament. Its connection with the uterus was too intimate to be explained on the supposition of an extrauterine origin and subsequent uterine adhesion. It may have been originally an adenomyoma of the variety described by Recklinghausen and later by Ries, and may, therefore, have originated in a remnant of the Wolffian body. If this be true, the myomatous elements had disappeared, leaving a pure adenoma. He exhibited specimens and microscopic sections. A pure adenoma springing from the outer wall of the uterus is at least rare and interesting.

Case 2.—The patient came to him in November, with the history of an operation for the removal of a uterine myoma eighteen months before. The wound had suppurated and did not completely heal, and about six weeks after operation pus appeared per vagina. Fever and chilly sensations had continued for eight or more weeks after the operation. Abdominal and vaginal sinuses discharging variable quantities of pus, and at times feces, have persisted, and were present when she came under his care. Examination disclosed a tumor in all respects apparently like the one just described. An operation was performed Nov. 19, 1898. As in Case 1, the firmly embedded cyst was enucleated from the space between the folds of the right broad ligament. The abdominal and vaginal sinuses both communicated with the cyst. At one point it was apparent that a communication had once existed between the cyst and the bowel, but the opening had closed by cicatrization. In the enucleation of the cyst care was necessary not to reestablish this opening. The sinus connecting the cyst with the vagina was enlarged by free incision. As in the previous case, a long, continuous gauze drain was packed into the space from which the tumor had been removed, and brought out through the vagina. The edges of the two folds of the broad ligament were then united over this packing by a whip-stitch, and the field of the operation was thereby rendered extraperitoneal. The abdominal wound was closed without drain. No part of the uterus or its appendages was destroyed. At the end of a week the vaginal gauze drain had been gradually removed. The patient made an uninterrupted recovery.

On microscopic examination the tumor proved to be a fibrocyst. It probably originated as a myoma, and through degenerative changes lost its muscular elements and became cystic. The contents of the sac was purulent and swarming with pneumococci. Dr. Dudley presented for inspection the gross specimen and two microscopic slides, one showing the pneumococcus, and the other the structure of the growth. He is not aware that any case has hitherto been reported of uterine fibrocyst with pneumococcus infection.

Dr. Dudley then discussed conservative surgery in myomectomy. The removal of the myoma and the preservation of the uterus with or without uterovaginal drainage is coming to be more and more the operation of election. Eleven years ago he reported a case of myomectomy by abdominal section and drainage from the interior of the uterus into the vagina. In this case no portion of the uterus was removed. Since this time Senn, Kelly and others have, in many cases and with various modifications, made use of the same principle, until now the conservation of the uterus in myomectomy is not only an established, but bids fair to become a frequent, operation.

Intramural tumors, even though quite large, may often, with the greatest ease, be shelled out of their beds and the uterine wounds successfully closed. The tumor cavity, if not too large, may be obliterated by closure with numerous interrupted or continuous buried catgut sutures, and finally the peritoneal margins of the uterine wounds are united by a close row of rather deep Lembert sutures. During the enucleation of the tumor and the closure of the uterine wound, hemorrhage is controlled by a temporary elastic ligature around the cervix uteri. Before closing the abdominal wound this ligature is removed, and a little time is allowed to make sure that there is to be no hemorrhage from the uterine wound. Hemorrhage is usually in a great measure controlled by the uterine contraction which follows the enucleation. The mortality of this method for small tumors, in which the traumatism is slight, is surprisingly small.

In case of a large tumor, and consequently of large traumatism with enormous surfaces to be united by buried sutures, closure of the uterine wound involves too great danger of sepsis, and the technic should be modified as follows: After the tumor has been shelled out from the uterine wall, an opening is made directly from the tumor cavity to the uterine cavity. If the uterine canal is patulous, a continuous strip of gauze is carried from the tumor cavity directly through it to the vagina, and the tumor cavity packed with the same continuous strip. The temporary elastic ligature around the cervix does not interfere with the introduction of the gauze. The uterine wound is then closed, as above described, by buried sutures and deep Lembert sutures of catgut. The peritoneal margins of this wound, thus turned in and united, rapidly grow together, and the whole uterine traumatism, now isolated from the peritoneum, is adequately drained through the vagina. No abdominal drain is required. If the uterine canal is not sufficiently patulous, it may be dilated or bilaterally incised by means of a herniotomy knife, or it may be both dilated and incised. The vagina is loosely filled with gauze to meet that which protrudes from the uterus; an absorbent vulvar dressing, to be changed as often as it becomes moist, completes the capillary drain. The gauze is removed in two or three days. Care is necessary in the closure of the uterine wound that the gauze be not caught in a suture, because then its removal would have to be postponed until after the absorption of the suture.

As shown in the two cases reported, the same principles will apply also to an intraligamentous tumor.

His own experience during several years with the above technic shows: 1, almost entire freedom from mortality; 2, prompt and uneventful recovery; 3, the most gratifying permanent results. The method is undoubtedly applicable to a much larger number of tumors than is generally supposed.

Dr. WM. K. JAQUES presented a report of the

DIPTHERIA WORK DONE BY THE CITY HEALTH DEPARTMENT,

saying that as much of the excellent showing of the diphtheria work in the Chicago Health Department is due to the prompt and cordial co-operation of physicians, the department took this means of informing them of the recent results in the charity cases treated by antitoxin.

During the months of November and December, 1898, the antitoxin staff treated 219 cases of bacterially verified diphtheria. Since the report of the last month was made, two of the cases still under treatment died, making a total of nine deaths out of 219. Four of these were intubation cases, there having been 23 intubations during the two months. No deaths occurred on either the first or second day of treatment; only one on the third and that in a child under one year old. The end of the third day seems to be the determining line in antitoxin treatment of diphtheria. On the fourth, or later than the fourth, the deaths occur in the larger proportion. This is the best record ever made in the treatment of charity diphtheria patients, and is a splendid example of co operative effort on the part of the Health Department and the medical fraternity.

Dr. Jaques invited the members of the Society to inspect the collection of slides on exhibition, showing specimens of the Klebs-Loeffler bacilli found in the cases referred to; also some slides showing a bacillus found in cases of influenza.

The total number of cases visited was 364; bacterially verified as true diphtheria, 219; treated with antitoxin, 232; recovered, 210; treated with the immunizing dose of antitoxin, 324; of these subsequently attacked with diphtheria, 2; of cases intubated, 23, and of the total number of intubated cases, recovered, 19.

Chicago Gynecological Society.

Regular Meeting, Jan. 18, 1899.

Dr. THOMAS J. WATKINS, the vice president, occupied the chair.

Dr. FRANKLIN H. MARTIN presented the specimens and postmortem findings from three dogs in which the ureters were implanted in the rectum.

Dog No. 1 was operated on and both ureters were implanted in the rectum, at a distance of from four to six inches from the anus. The animal recovered from the primary operation promptly, and lived in apparent comfort until within a few days of May 14, 1898, when he suddenly died. During the months between the operation and death, the rectum of the animal acted as a perfect substitute for the bladder. There was no leakage of the sphincters, and he would hold the urine without apparent irritation for six to eight hours, when he would void it voluntarily. The dog would have a fecal movement of the bowels once or twice a day independently of the urinary movement. The animal died of double septic nephritis with general pyemia. Both ureters remained patulous.

Dog No. 2 was operated on Dec. 17, 1897, and died Nov. 16, 1898. In this animal he picked up at random a small intestine and implanted into it one ureter. The postmortem showed that he had implanted the ureter in the jejunum. The dog lived without discomfort after this operation, the passage of the urine being accompanied by fecal matter. The attendant claimed that the dog got exposed and died of cold. The implanted ureter in this case was patulous, and the kidney of the operative side free from suppuration.

Dog No. 3 was operated on Feb. 25, 1897, and died Dec. 19, 1898. One ureter only was implanted in the rectum; the animal recovered promptly from the operation, was never sick or apparently in discomfort after the immediate effects of the operation passed off until within a week of death, when his appetite failed, temperature developed, and he died suddenly. The animal lived comfortably and passed urine from the rectum about every eight hours. The ureter had remained patulous.

Dr. F. R. ZEIT made a brief pathologic report of Dr. Martin's cases in explanation of the macroscopic and microscopic specimens that were shown. Dr. Zeit stated that Dr. Martin's cases of union between the ureter and intestine were technically perfect, and it will be of considerable interest to examine at some future time sections through these parts. No attempt was made in any of the cases to protect the ureters from invasion of bacteria from the bowels by any valve device in the technic. The ureters were implanted singly. The anastomosis of the ureter with the bowel was made in each case perpendicularly or at right angles to the axis of the intestine. The operation of implantation of the ureter in the bowel is a delicate and difficult one. The three dogs represent the successes in thirty-four dogs operated upon; the other thirty-one died within one week after the operation from various causes associated with the technic. He has devised a new operation for implantation of the ureters in the rectum, by which he hopes to prevent infection of the ureters by the colon bacilli and other bacteria from the bowel. The technic of this operation will be published shortly. His experiments have been undertaken with the idea of making removal of the human bladder a feasible operation. This is only a preliminary report to a more formal paper on the subject, in which the author will consider more in detail his experiments.

Dr. E. C. DUDLEY read a paper entitled

GENERAL PRINCIPLES, INDICATIONS AND CONTRAINDICATIONS OF MECHANICAL SUPPORT FOR UTERINE DEVIATIONS.

After a few preliminary remarks, he dwelt upon the normal position of the uterus, as well as normal movements of the organ. In considering normal supports of the uterus, he stated that the uterus is maintained within its normal range of movements by the pelvic floor, of which the uterine ligaments are an essential part. The uterine ligaments are physiologically in a state, not of tension, but of relaxation; the state of tension would be pathologic; they do not fix the uterus; they only tend to limit its movements through their normal range, and may therefore be likened to the rope which holds the ship to the dock. Backward displacement of the body is resisted by the round ligaments; backward displacement of the cervix by the uterovesical ligaments, and by the vesicovaginal wall. Forward and downward displacements are resisted by the uterosacral ligaments, and excessive lateral motion by the broad ligaments. This restraining power is doubtless greater in the uterosacral than in any of the other ligaments.

In the first degree of descent, the cervix uteri is displaced downward and forward sufficiently to give radial distance and to permit the body to turn back into retroversion. The organ in its normal location can not retrovert, because in so doing it would impinge upon the bony sacrum. As a consequence of the first degree of descent, there are two significant possibilities: 1. As the uterus falls to a lower level, where it would crowd upon and irritate the bladder, its long axis usually changes so as more and more to conform to that of the vagina, the cervix moves forward toward the pubes and the corpus backward toward the sacrum, that is, it turns back away from the bladder into retroversion. This is as if the irritated bladder, in the protection of its own right and territory, had thrown it back. On the other hand, instead of turning away into retroversion, the location of the uterus may simply change to a lower level, while the position remains the same; that is, the organ, still retaining its normal position of anteversion and anteflexion, may only settle to a lower plane. The corpus must then occupy space which belongs to the bladder and must mechanically irritate that viscus. The normally anteverted and anteflexed uterus in such descent is much more palpable to digital examination, and for this reason, the vesical irritation consequent upon the descent has often been wrongly attributed to the anteversion and anteflexion. In this way has arisen much confusion in the effort to draw the line between normal and pathologic anterior positions. The prompt relief which follows permanent replacement of the organ upward to the normal location, even though in so doing its anteposition may be exaggerated, proves that such symptoms depend upon the mal-location of descent, not upon the anteposition. Another cause of vesical irritation is the dragging of the uterus upon the neck of the bladder. This traction occurs not only in ascent, but also when the organ descends below a certain level. In the attempts, therefore, to raise the depressed uterus, one should avoid lifting it above the health level.

The function of any means of mechanic support is to maintain the uterus not only on the health level in its normal location, but also, if possible, in its normal position. This requires the cervix to be about one inch from the sacrum. The cervix in a suitable case being thus properly placed, retroversion is not liable to occur, because in so doing the fundus uteri would encounter the sacrum, and because the direction of least resistance would be forward into the normal anterior position. If the cervix be normally placed within an inch of the hollow of the sacrum, the body of the uterus will, in the absence of complitions, usually take care of itself. Since the vagina at its upper extremity is attached to the cervix, displacement of the latter is clearly impossible, if the upper extremity of the vagina is sustained in its normal location. The pessary restores and maintains the relations of the relaxed vaginal walls by crowding the posterior vaginal cul-de-sac upward into the hollow of the sacrum. It also holds the attached cervix within a proper distance from the sacrum, and thereby fulfills its indication by giving support to the pelvic floor. The Hodge pessary, or some modification thereof, answers this purpose in ordinary cases more satisfactorily than any other. The special function is to supplement the inadequate uterosacral ligaments.

The author next considered the indications and contraindications for mechanic support. The pessary is always contraindicated until the uterus has been replaced. Failure of replacement will cause it to press upon the sensitive uterus, and one of three unfortunate results may occur: 1, the pessary may not be tolerated on account of pain; 2, it may be forced down by pressure from above so near to the vulva that it will fail to do the least good; 3, the uterus, finding it impossible to hold its position against the pessary, instead of taking the proper position, may be be bent over it in exaggerated retroflexion, with the cervix between the pessary and the pubes, or the whole organ may slip off to one side of the instrument into a malposition more serious than the one for which relief is sought. A properly adjusted pessary gives to the patient no consciousness of its presence. If the instrument causes pain, it should be removed and search made for the tender places; it should then, if possible, be remolded into such shape that it will not make pressure upon them. Often a slight indentation at some point will enable the patient to wear it with comfort. If it can not be made comfortable, it is contraindicated and should be abandoned. If relief is not obtained by an instrument which holds the cervix near the hollow of the sacrum, mechanic support is, generally speaking, contraindicated. The intrauterine stem pessary, in his opinion, is a good thing to watch. It is rarely useful, often injurious, always dangerous. The use of a pessary must be restricted to those cases in which the displaced organs are replaceable, in which the pessary is capable of holding them in place and can be worn without discomfort. Failure to recognize and appreciate the contraindications accounts not only for the failures and disappointments, but also for the many evil results which have followed the indiscriminate attempts

to treat all displacements by mechanic support. The recognition of the necessity for accurate diagnosis and the exclusion of unsuitable cases is apparent, and the pessary, according to the knowledge, judgment and mechanic skill of the practitioner, will be useful, useless, or injurious. No man can safely apply a pessary until he has fully appreciated its indications and contraindications. Many practitioners are deficient in the natural mechanic skill necessary to its proper adjustment. Of this thousands of unfortunate women bear witness. Its dangers in inefficient hands are in striking contrast with its usefulness when judiciously employed in proper cases. The misguided practitioner should bear the burden of his own fault, the pessary should not be made to do so for him.

Dr. FRANKLIN H. MARTIN read a paper on

ELECTRICITY IN THE MECHANIC TREATMENT OF MALPOSITION OF THE UTERUS.

He spoke of the physiologic effects obtained by an interrupted galvanic current, an inducted current, or the sinusoidal current. The best effects are obtained by the two latter, and each should have automatic regulators which will make interruptions or sinuosities slow or fast. The effects sought from these mechanisms are their power to contract striped and unstriped muscular fibers, and their power to stimulate the nutrition of any part of the body through which they act.

The faradic or sinusoidal current is especially valuable in: 1, simple retroversion without adhesions, without severe laceration of the rectovaginal septum, without cystic disease of the appendages, in which the uterus is movable, or, at least, can be replaced under anesthesia, and which can be temporarily supported in proximate normal position with a Hodge-Smith pessary; 2, acute anteflexion of the uterus in non-developed or infantile uteri in which the principal symptoms are dysuria and excruciating, obstructive dysmenorrhea.

His method of treating an uncomplicated retroversion by electricity is to carefully replace the uterus by bimanual manipulation from vagina and abdomen. If the organ resists his attempts to replace it from the vagina, he transfers the index finger from the vagina to the rectum, as frequently an impacted uterus will yield from this pressure direct on the fundus when the vaginal manipulation fails. If the uterus still does not respond, he places the patient in the knee chest position, distends the vagina with air, and makes pressure on the cervix toward the sacrum with the index finger. Finally, if it is still obdurate, he attempts to dislodge the fundus by pushing it forward with the finger from the rectum while the patient is still in the knee chest position. If this fails, he has the patient prepared for ether anesthesia, and then success is easy.

After the uterus is once dislodged he selects a Hodge-Smith pessary of the proper shape—previously ascertained to be approximately the proper size and shape—and fits it in the vagina in such a way that it will throw the vagina into its normal distended curve, and carry the cervix uteri back into the hollow of the sacrum. This pessary temporarily supports the uterus in normal position. The reasons why it will not remain in that position if the pessary is removed are: 1. Because the sacro-uterine ligaments, which contain a few muscular fibers, and whose function is to hold the cervix near the hollow of the sacrum, have been violently and inordinately stretched, and have lost their power of contractility and normal tone. 2. Because the muscles of the anterior and posterior walls of the vagina have been stretched by the uterus sliding up and down between them in the direction of their axis, and the vaginal tube has become shortened from telescoping of the uterus, and in consequence the tone of the muscles has become excessively impaired. 4. The lower bowel, too, soon becomes atonic with a prolonged pressure from a retroverted uterus, and its supporting power becomes impaired. The object is to restore all these muscles to their normal tone, so that they will contract gradually while the abnormal strain is removed from them by the pessary, and finally, again support the womb without pessary aid. Dr. Martin then detailed the method of accomplishing this.

Under separate headings he dealt with bipolar vaginal treatment, combined vaginal and abdominal treatment, time of treatment, and summarized as follows: 1. Electricity in the form of the faradic or the sinusoidal current, slowly vibrated, will cause contraction of the striped and unstriped muscular fibers in the female pelvis. It is also a smart promoter of nutrition. 2. Displacements of the uterus dependent alone on muscular relaxation or muscular non development, if curable at all without operation, can be cured better and quicker by electricity than by any other treatment now resorted to.

Dr. WILLIAM H. RUMPF read a paper on

THE USE OF MASSAGE IN THE TREATMENT OF MALPOSITIONS OF THE UTERUS.

He briefly considered a few questions which have occurred to him in connection with the subject. What malpositions of the uterus may be treated by massage? In this regard he would say that the retroflexions and versions, and the cases in which the uterus is drawn to the left or the right by adhesions are the only ones that are benefited by massage. He has treated a number of pathologic anteflexions and prolapsus of the uterus, but has never seen any material benefit. This, then, would limit the subject to the consideration of the treatment of retroflexions. In retroflexions, massage has given him personally more satisfactory results than any other form of treatment, and this pathologic condition is the most important field for pelvic massage.

As to the indications for the use of massage in malpositions of the uterus, he would answer by saying that all cases in which pus and malignant disease can positively be excluded may be benefited by this treatment. These contraindications are not always easy to exclude, but as has been frequently pointed out, the massage in itself helps to make more thorough diagnoses.

What can be accomplished by massage? Given a typic fixed retroflexion with firm adhesions, thickening and infiltration of all ligaments and large congested uterus, the dysmenorrhea, menorrhagia, backache and vesical symptoms make the patient's life miserable. In these cases he is confident that massage will do more than any other form of treatment to relieve the pain and congestion and to gradually raise the uterus from its fixed surroundings. In all cases in which there is chronic constipation he supplements massage of the uterus by massage of the abdomen. Proper attention to the intestinal tract is in all cases most important.

Finally, he considers massage the most valuable adjunct we possess in the treatment of retroflexions of the uterus. About 50 per cent. of the cases will be completely cured, and the rest will be excellently prepared for further treatment with pessaries or operations. Symptomatically, all cases may be relieved.

Dr. T. J. WATKINS read a paper on

TAMPONS AND PESSARIES IN THE TREATMENT OF DISPLACEMENTS OF THE UTERUS.

Fine, sterilized lamb's wool is the best material to use for tampons, in the mechanic treatment of displacements of the uterus, on account of its elasticity. The value of tampons depends upon keeping the uterus as near its normal plane in the pelvis as possible, and the elasticity of the tampons elongates any adhesions that may prevent reposition of the lower segment of the uterus. Tampons, in order to be effective, should be used almost continuously, that is, soon after one tampon is removed another should be inserted. It is useless for a patient to wear tampons for one or two days and then go one or two days without them. Tampons are best inserted with the patient in the knee-elbow or knee-chest position. With these positions the weight of the intestines is removed from the uterus and the vagina is distended with air. After restoring the uterus to as near its normal location as possible, by gentle force, the vagina should be packed as tightly as possible without producing any distress to the patient.

Much has been said about the relations of the tampons to the cervix, as to whether they should be placed anterior or posterior to it. This is of no importance, as the most that can be accomplished is to hold the uterus in its normal plane in the pelvis.

The Albert Smith and Emmet pessaries fulfil about all the requirements of a pessary for the mechanic treatment of uterine displacements. Intrauterine pessaries are dangerous to use on account of liability to infection. There is less objection to their use in cases where the uterine cavity is the seat of an infection than in cases where the uterine mucosa is aseptic. Intrauterine pessaries do sometimes relieve dysmenorrhea, but it is questionable if they are of sufficient value to justify one in assuming the risk of infection which attends their use.

The principal of the action of the pessary is to keep the cervix in or near its normal location (about one inch from the sacrum, and the external os about two and one-half inches below the promontory of the sacrum). With the cervix in this location, gravity and intra-abdominal pressure will insure anterior position of the body of the uterus, if mobile, when the woman is in an upright position. With the cervix in normal location there is not sufficient space for the body of the uterus to get between the cervix and the sacrum.

Pessaries are best molded by heating them in water, when they can be easily shaped as desired.

Tampons are valuable in some cases of prolapse of the uterus, due to subinvolution of the uterus or its supports, when it is impracticable or inadvisable for the patient to remain in the recumbent position. The tampons are especially indicated when the uterosacral ligaments are the seat of pain or tender-

pain on pressure, or when the uterus is much increased in weight.

The class of retroposition of the uterus which is most satisfactorily treated by means of tampons and pessaries consists of those of recent occurrence, without the presence of adhesions, relaxations of the pelvic outlet, or too great mobility of the uterus. In many of these cases the uterus can be replaced and a pessary fitted that will, if the uterus is not much increased in weight, or the uterosacral ligaments sensitive to pressure, entirely relieve the patient of all discomfort. In recent displacements the pessary will result in a perfect cure in quite a large percentage of cases. If the uterus is much increased in size or the uterosacral ligaments are sensitive, these conditions can frequently be relieved by the use of tampons, so that a pessary can be worn that will remove all symptoms.

A pessary should never be used whenever there are present any sensitive points upon which it will press, or whenever the uterus has a marked tendency to return to the abnormal position as soon as it is replaced. The pessary should be removed at once if it produces any pain or discomfort. It should be removed every one to three months for the purpose of cleansing and readjustment. Douches are not necessary, in the absence of discharge, except for cleanliness. Whether a patient should wear a pessary continuously, or submit to some operation of suspension or fixation, will depend largely upon the desires of the patient. The thoughts of continually wearing a pessary are very annoying to some patients, and in this instance an operation is indicated. As a general proposition, a patient with a retroposition of the uterus, who is made perfectly comfortable by the use of a pessary, will enjoy much better health by continually wearing the instrument than she will as the result of any of the operations of fixation and suspension yet devised.

I do not advise the use of pessaries in every case of simple retroposition of the uterus, as many women have retroposition of the uterus which does not produce symptoms, and which consequently requires no treatment.

Pessaries are of especial value in some cases of simple retroposition of the uterus during the second and third months of pregnancy. Retroposition of the uterus complicated by adhesions may be treated with tampons supplementary to massage, and finally relieved by a pessary. These cases, however, have usually been the subject of infection, implicating the tubes and ovaries, and frequently these organs then require operative treatment and indicate hysterorrhaphy.

I prefer to treat cases of retroposition of the uterus complicated by marked relaxation of the pelvic outlet, by vaginal fixation at the time the pelvic outlet is repaired, as I believe that vaginal fixation can be done without materially increasing the dangers of gestation and labor.

The routine use of pessaries, carelessness in studying the indications and contraindications for their use, and negligence in the proper selection of the instrument for each individual case have done much harm and can not be too severely criticised.

Denver and Arapahoe County Medical Society.

Annual Meeting, Jan. 10, 1899.

Dr. C. A. Powers presented a child, 7 years old, with complete cleft of the soft palate and the posterior fourth of the hard palate. The first operation, July, 1897, resulted in complete failure, from some unassignable cause. The second operation, December, 1897, was a complete success. Dr. Powers has operated in Denver on four cases of cleft palate and he achieved success in all except the one presented. "The subject of cleft palate brings prominently to one's mind the exceedingly valuable work done a number of years ago by our fellow townsman, Dr. W. R. Whitehead, who was, if I remember rightly, the first to insist on the importance of the thorough division of the palatal muscles. This early work done by Dr. Whitehead formed the basis for the successful management of this distressing condition, and the gag devised by him is employed today throughout the world." As to the effect of the closure of the cleft on the speech of the patient, Dr. Powers said that the palatal fold will not have normal vibration, and that speech is not apt to become perfect. It is, however, very much improved, and patient education of the patient will render the speech the very best possible.

The second case presented by Dr. Powers was a woman, 33 years old, mother of four children. Six months ago she noticed a small lump in the lower outer quadrant of the right breast. Examined Nov. 14, 1898; revealed a hard nodular mass, irregular in shape, two-thirds the size of the palm of one's hand. This is continuous with a very large mass in the anterior axilla. At the apex of the axilla may be felt several hard movable segregated nodules. The mass itself seems to be fixed to the fibers of the pectoralis major muscle. October 17, at St. Luke's Hospital, the "complete" Halsted operation was done under ether. Because of the large growth in the anterior of the axilla, it was necessary to remove a very large amount of the skin over this. This greatly encroached on the skin flap which should be crowded, forming the fornix of the axilla. The tissues were removed by a sharp knife and in a single piece. Small, hard, cancerous glands were found well up on the subclavian vein, and this fact led to a very dubious prognosis. When the tissue had been removed the remaining wound seemed enormous in size. The small triangular flap which remained was crowded up into the fornix of the axilla and there held in place by carefully applied pressure made on gauze by the fingers of an assistant. A purse-string suture of heavy silk was applied in the wound. This materially lessened the size of the wound, but when tightened as much as could be, a circular space four and one half inches in diameter still remained. This was covered by freshly-cut skin grafts, and a firm, even, copious dressing was applied with scrupulous care. The time of operation was two and one half hours.

The subsequent course was entirely smooth. The dressing was first changed on the seventh day. The wound was found to be absolutely aseptic. The fornix flap had readily united, the wound surface was practically closed by the freshly applied grafts, and all sutures removed. There was complete and solid healing ten days later. From the fifth day the patient was encouraged in the use of the forearm and arm, and on the twentieth day after the operation she could dress her back hair, the functions of the shoulder being practically complete.

Dr. Powers considers Halsted's operation not only extremely radical, but exceedingly difficult, tedious and formidable. The very greatest care should be exercised to spare the patient loss of blood. The patient should be kept thoroughly warm by flannels. The operation is a very long one, Halsted himself taking not infrequently three hours. He believes Halsted is right when he says that not all surgeons should attempt it. When, however, all possible precaution is taken, the patient bears it remarkably well. The case presented may be used in illustration of the statement. At the end of two and a quarter hours the patient had lost but little blood and was in the best of general condition.

The third case presented by Dr. Powers was a boy 17 years old who sustained a fracture of the right patella in January, 1898, and was treated by apparatus with fairly good results. In June he slipped and fell, rupturing the callus, a simple fracture of the patella, the fragments being separated about an inch and a half. There was marked effusion into the joint, two and one-half inches atrophy of the thigh, and one inch atrophy of the leg. The circumference of the joint at the middle was three inches greater than that of its fellow. The patient was put to bed with the limb elevated at an angle of 45 degrees, elastic compression by Esmarch's bandage over knee, and ice caps outside of this, and posterior splint applied. At the end of four days the joint was down to almost its normal size. Two days later the fragments were sutured in the following manner: Aseptic details were carried out to a scrupulous degree. A simple linear incision was made below the lower fragment, the flap well dissected upward and both fragments exposed. The joint was full of clotted blood. The bone surfaces were freshened. Both upper and lower fragments were drilled at about their middle. The fragments could not, however, be brought within an inch of each other, and the quadriceps was thoroughly seated some six inches above the fragment. This permitted the fragments to come within about one half inch of each other. The quadriceps tendon was well divided just above the upper fragment; this allowed the upper fragment to be brought down a little more, so that indeed, on tight stretching, the posterior two-thirds of the freshened bony surfaces could be brought together. There was, however, still a gap at the anterior third. He wired the bones in this position, feeling that it was the best approximation that he could make, and that the fractured surfaces would probably unite. The prepatellar tissue and lateral soft parts were sutured by chromicised catgut, and the wound closed without drainage. The patient's course was absolutely without reaction. The skin sutures were taken out on the tenth day, and the limb kept in a plaster of paris splint until a week later, at which time it was taken out and a vigorous and systematic massage of the thigh and leg given. Improvement speedily followed, the muscles filled out, flexion gradually increased, and at this time flexion can be made within a right angle, extension being strong and complete.

Dr. Minnie T. C. Love read a paper on

A CASE OF TRACHITIS

in a girl 3 years of age. She had been perfectly well up to the night before Dr. Love called, when she found her with a temperature of 101.5 degrees, brazen cough with lungs and bronchi normal; pharynx red but perfectly clear; tongue coated; bowels congested. Calomel in one-tenth grain doses, and a cough mixture, were ordered. On the third day the temperature was normal, voice not quite natural but in no way alarming; bowels moved once. About noon of the same day she began vomiting, which continued until 2 P.M. The child became drowsy. At 7:30 A.M. breathing was very much labored, no cough, no spasm, temperature (rectal) 100 degrees, voice squeaky. She lay with her eyes open and her breath was that of a child with membranous croup; heart faint; color good. At 10:30 Dr. Robert Levy was called in consultation, when respiration was 40, pulse 160, temperature 100 degrees. Dr. Levy said that it was a curious case; that he believed the trouble was not in the larynx alone, but due to a toxin affecting the respiratory centers. He advised further counsel. Dr. Hall, who was called at 12:30 (midnight) was just as much mystified. At 7:30 the child struggled for breath; skin blue. The child was intubated without giving the slightest relief. Tracheotomy was performed as a forlorn hope, and the result was the same. At 3:30 P.M. the following day, the child died. Postmortem at 5 P.M.: Abdomen and hands were very much discolored; stomach distended with dark fluid; lungs and heart normal; larynx, trachea and large bronchial tubes reddened. There was no perceptible edema. The brain was not examined. A small section of the larynx was removed and bateriologically examined. The report was "staphylococcus pyogenes aureus infection."

In conclusion, Dr. Love said: "I report this case because neither myself nor our consultants at that time had seen just such a case, and in the hope that discussion may show some light that will enable us, should we meet with such another, to save life. I understand that Dr. Packard has since had a similar case, and that a physician died in the city about the same time with the same symptoms."

Dr. ROBERT LEVY said that the voice of the child indicated that it was not a case of laryngeal diphtheria, neither does he think it was a case of trachitis. He thinks the symptoms indicated some kind of a profound systemic poison.

Dr. J. T. ESKRIDGE recited the histories of several cases seen by him in Philadelphia, which resemble that of Dr. Love, and in which the autopsy revealed initial lesions of meningitis. He regretted that Dr. Love had not made an examination of the brain.

Dr. LOBINGIER said that an autopsy in such cases is not complete without the brain being carefully examined.

Dr. MITCHELL exhibited pure cultures of tubercle bacilli, the first ever made in Colorado.

The election of officers for the ensuing year resulted as follows: H. B. Whitney, president; C. K. Fleming, vice-president; E. J. Rothwell, treasurer; Ed. Delahenty, secretary; G. H. Stover, financial secretary. Drs. J. N. Hall, Edward Jackson, E. H. Heshey and J. M. Blain were elected Board of Censors.

Cincinnati Academy of Medicine.

Regular Meeting, Jan. 23, 1899.

Dr. LOUIS SCHWAB, the president, occupied the chair.

Dr. ROBERT CAROTHERS presented a patient, a boy of 12 years, who last April had had an attack of measles. On July 3 he sustained a rather severe fall, and on July 4 he was attacked by a chill, high fever, and its accompanying symptoms, followed by the symptoms of an acute osteomyelitis involving the right hip, severe pain, tenderness, fulness and edema about the joint, with enlargements of the veins. With this diagnosis he had advised amputation at the hip-joint, but at that time the operation was refused. An exploratory incision was, however, allowed, and by this means the diagnosis was confirmed. Some little time after the affection of the right hip, the left began to show an apparently similar involvement. Early in November, the boy's condition not exhibiting any improvement, amputation at the right hip-joint was again advised and accepted. A tourniquet was placed as high as possible, without pins, and anterior and posterior flaps made by transfixion, and on account of the pathologic conditions present the head of the bone was easily dislocated from its socket, the attachments severed and the bone removed. Following the operation a condition of shock supervened that for a week or ten days constantly menaced the life of the patient. Stimulating treatment of all kinds and descriptions was instituted, with the gratifying result that he finally rallied. Amelioration in the condition of the left hip now began to take place, that is as far as the acute symptoms were concerned. A pathologic fracture of the neck of the femur followed; the displaced bone seems during the six months that have elapsed since this accident to have prepared for itself a new socket; motion is fair but limited, and it was thought that the result, everything considered, was so good that, in view of the fact that more or less obliteration of the old joint cavity must have occurred, it would be best to let well enough alone and allow the head of the bone to occupy its new cavity. The boy as presented was considerably emaciated from the long siege of sickness through which he had passed, and the muscles of the left leg and hip were atrophied to some extent by long disuse so that he could with difficulty bear the weight of the body on that member.

Dr. J. M. WITHROW presented a specimen of cancer of the body of the uterus in which the diagnosis had been made early by microscopic examination of the scrapings of the corporeal endometrium. He made a plea for the microscopic examination of all uterine scrapings, particularly when the subjects were approaching the climacteric and were afflicted with menorrhagia or metrorrhagia. A second specimen, removed that day, was of a tumor involving the posterior wall of the uterus, the weight of the whole mass being about five pounds. An abdominal enlargement had existed, as far as the patient was able to state, about a year. He thought the tumor malignant, and had advised immediate operation, which had been accepted. The enucleation of the tumor had presented no particular difficulty, the peritoneal covering being intact and without serious adhesions. Microscopic examination was made by Dr. Whitacre, who said that the tumor was a gliomyoma, but that the tissue was somewhat loosely arranged. The fibers did not all run a regular course and there were numerous branched cells present. The blood-vessels particularly, showed signs of rapid growth in that some of them even of the size of goose-quills were composed of but a single layer of cells. He was suspicious of sarcomatous involvement, and from what he had seen of this class of tumors, was inclined to look for recurrence locally in this case.

Dr. N. P. DANDRIDGE exhibited a specimen, from the Mussey collection, of encysted stone of the gall-bladder. He exhibited it for the historic interest alone, believing the specimen to be about fifty years old.

Dr. RICKETTS exhibited a specimen of the head of a femur resected from a child, for tuberculosis, which had started in the ligamentum teres.

Dr. MAGNUS TATE reported a case of hyperpyrexia in a case of double pneumonia. He had seen the case from about its beginning, and for nine days the temperature had not exceeded a point usual with this class of cases of sthenic pneumonia. On the ninth day the fever was but little over 100 degrees, but from that time on the temperature began to steadily climb until just before death, several days after the pseudo crisis, the thermometer recorded a maximum of 108.8. Drs. Orr and Kiely had seen the case several times with him.

Dr. N. P. DANDRIDGE presented the regular paper of the evening, entitled

ACUTE OSTEOMYELITIS.

He thought that the disease could be most readily divided into the direct, that is to say, that class of cases following a severe injury or operation upon the part subsequently involved, as compound fractures and amputations, and the indirect, in which the infective germs entering by way of the gastro-intestinal or respiratory tract, or being already present in some latent focus, were subsequently taken up by the blood stream and conveyed to or deposited in the tissue, made less resistant by injury or by exposure to cold and wet. This latter is what he thought occurred when acute osteomyelitis followed measles, scarlet fever, typhoid fever or perhaps influenza. He did not lay as much stress upon a slight injury, as a blow or fall, as upon exposure as an etiologic factor, because he had been warned by a case in his own experience, in which the patient had himself assigned the disease to a slight injury, but in which, in a careful subsequent questioning, he admitted that he had had the part, the knee, some time previously, involved by what was regarded as acute rheumatism, acquired while he was following his occupation of steamboatman. In this attack but one joint had been involved, and the subsequent history had demonstrated the osteomyelitis to have involved this same joint. He wished to lay special stress upon the prominence of typhoid fever as an etiologic factor, on which point his experience agreed with that of Keen. In the discussion of symptoms and pathologic conditions he followed the rule of most surgeons. As regards diagnosis, rheumatism, osteitis, erysipelas, phlegmonous cellulitis and typhoid fever must be differentiated. He had himself had a case in which the boy's symptoms so greatly

resembled an osteomyelitis that after consultation with another physician, he had operated upon the bone only to find it healthy; the boy passed through a typic typhoid infection apparently none the worse for the operation. In conclusion, he expressed the hope that the examination of the blood would in the future help to throw some light upon the subject. During the course of his remarks specimens of bone illustrating the various pathologic lesions were presented.

Dr. Joseph Ransohoff, while concurring in the main in what the essayist had said, took exception to him in one point, namely, that as far as his own personal experience went, joints were not as a rule involved except possibly in the very acute cases. As regards diagnosis, he thought that while as a rule it could be made rather easily, not infrequently anomalous cases would present great difficulty. In the case of a boy in his own practice, in whom there had been no fever and in whom a family history of malignant disease was the most significant that had ever come to his notice, he had made an early operation and had found that, not sarcoma, but osteomyelitis, was the pathologic condition present. Another point to which he wished to call particular attention was the recurrence of the disease, sometimes long years afterward—in two cases of his own after an interval of twenty-five years. He thought it a point for bacteriologists to decide whether in these cases germs or their spores had remained latent all these years or whether the original injury had for all time established a place of diminished physiologic resistance, making it a suitable nidus for the lodgment of germs in some subsequent infection.

Dr. Kennon Dunham spoke regarding the value of blood examinations in this affection. He thought that the Widal reaction would be of the greatest aid in diagnosticating osteomyelitis from typhoid fever; that time had demonstrated that this reaction had come to stay and was, in the large majority of cases, perfectly reliable. The leucocyte count in this as in other suppurative affections, showing as it does a marked leucocytosis, would also be of value. He also said that, in addition to the other germs mentioned by the essayist, the pneumococcus had been found as a causal factor in osteomyelitis, even when there had been no involvement of the lungs.

Dr. A. W. Johnstone spoke of the relation of this disease to insanity. Osteomyelitis had been present in two cases of insanity, in his own experience, and he did not regard this in the light of a coincidence. Recurrences had occurred in both these instances.

Dr. Albert Freiberg spoke of several cases in which, although typic symptoms of osteomyelitis were present, subsidence of the inflammation had supravened without operation, suppuration or necrosis.

Dr. C. E. Caldwell narrated a case along the same line.

Dr. Robert Carothers also narrated a similar case. He had also noticed recurrences. In all his cases the hip-joint had been involved.

Dr. J. C. Oliver spoke of albuminuria and amyloid disease, coming on with long-continued discharge of pus, necessarily ensuing when no operative interference had been instituted.

Dr. Dandridge closed the discussion. He had been particularly interested in the case presented by Dr. Carothers, both because of its bearing upon his paper, and on account of the length of time elapsing between the predisposing cause, measles, and the onset of the acute disease. While he knew of this frequently happening after typhoid and Keen had also reported such cases, he had not been aware that the same was true following measles. He could throw no light upon the relation between osteomyelitis and insanity, if, indeed, any existed. He rather thought that the cases mentioned by one of the speakers in this connection were of tuberculous origin.

Chicago Ophthalmological and Otological Society.

Regular Meeting, Jan. 10, 1899.

Dr. W. F. Coleman officiated as chairman of the meeting.

After the reading of the minutes of the previous meeting by the secretary, the election of officers was proceeded with, the result being as follows: President, Lyman Ware; vice-president, C. D. Wescott; secretary-treasurer, C. P. Pinckard; committee on membership, William H. Wilder, Wm. T. Montgomery, and W. F. Coleman.

EMBOLISM OF THE CENTRAL RETINAL ARTERY.

Dr. Casey A. Wood—The subject of this report is W. H. M., aged 56 years. He has a history of acute articular rheumatism twenty years ago, with subsequent relapses, and has acquired an aortic regurgitation. He never had any trouble with his eyes except the usual presbyopia, until two days before the date of presentation, when he noticed a cloud over his left eye, which came on while reading, without pain or other symptom. He shortly afterward found he could see better with the affected eye by looking sideways. He was seen about sixty hours after the blindness. V. L. = ⅓ eccentrically, and Jaeger XVI, not improved. V. R. = I. and J. I with glasses. There is a well marked edema of the whole left retina, except a small area extending from the temporal third of the disc to within a D. D. of the fovea. The latter is occupied by a small, reddish spot. The veins have a slightly marked, sausage-like appearance. The arteries are smaller than normal and partially covered by the retinal swelling. The sausage-like appearance of the former is seen to be partly due to their occasional burial in the opaque retina. There are no marked changes in the disc. During the following two weeks the edema gradually lessened, the vessels becoming more plainly visible, and the unaffected retinal area seems larger. The point of interest in this case is the presence of several cilioretinal arteries supplying this portion of the fundus. When first seen, the swelling of the retinal elements was quite marked, and seemed to encroach upon and overlie the island of the normal retina, so that with the ophthalmoscope one could appreciate the difference in level between the normal retino choroidal epithelium and the upper layers of the edematous retina.

The treatment was that of Fischer—deep massage of the globe, prolonged and rather severe, with albolene or plain vaselin, which was put into the conjunctival sac and pressure made, especially upon the equator of the globe, continuously for ten minutes at a time. The results were probably negative, although the massage was persevered in for a week. The fundus picture is by Miss Cleveland, and shows the cilioretinal vessels very well, and the unaffected area of the retina supplied by them. Several confrères examined the case in its various stages, but were not able to find any trace of the embolus. All the signs point to its lodgment behind the globe in the main body of the artery. He presented perimeter charts showing several observations, at regular intervals, of the size and shape of the field.

Dr. C. P. Pinckard—The case reported by Dr. Wood reminds me of the one I narrated to the Society last April—the case of a child with amaurotic idiocy. I heard from the child not long ago, and it is completely helpless, and it does not seem as if it would live long. The appearance in this case was so similar to embolism that it made me think of it.

Dr. F. C. Hotz—These cases are interesting on account of their final outcome. We know that there are no definite means to help these patients. Cases have been reported in which massage has been successful, but my experience coincides with Dr. Wood, that massage has not benefited any of the cases in which I have used it. I would like to ask Dr. Wood whether he thinks iridectomy had anything to do with the result he reported in a case of embolism some time ago.

Dr. Wood—I did not obtain a brilliant result from iridectomy, and I have only treated cases of recent origin. The case Dr. Hotz refers to came under my observation three or four years ago. Inasmuch as the prognosis was gloomy and other treatment had failed, an iridectomy was suggested as a last resort. It was a case of partial embolism of the artery, and a measurable improvement in central vision and in the field of vision certainly followed the iridectomy, but it may properly be given the credit of the improvement.

Dr. W. F. Coleman—Perhaps some of you are not aware that I have reported a case of embolism of one of the inferonasal arterial vessels, with recovery, recently, whilch had a history of loss of vision for about four weeks. The patient came to me about a year ago, when vision was equal to counting fingers at twelve feet. I said to the man that there was very little use of attempting to treat him, as no treatment would seem to offer any prospect of success. At that time I had rather a hobby of trying galvanism in many cases that presented. This I tried in his case. I gave him about a dozen treatments, using from five to seven milliampères daily. At the end of these treatments he could read the second-hand on my watch. His field of vision became largely increased, perhaps within ten or fifteen degrees of normal. While this treatment and recovery may have been simply a coincidence or the case one of spontaneous recovery, I doubt it very much. I saw the man four months afterward, and his vision remained equally good.

Dr. Ware—I recall a case in which I used galvanism with temporary improvement, but it relapsed.

HYSTERIC AMBLYOPIA.

Dr. F. C. Hotz—A young lady was brought to me Jan. 14, 1898, who, six weeks previously had been seized with a violent pain in the forehead, lasting three days, when vision of the left eye began to fade away, so that at the time she could see but little with it. Two weeks previously she also had pain

over the right eye, and vision of that eye had several times been obscured considerably for several hours. Three years previously she got glasses for reading. An examination revealed vision $^{20}/_{30}$ in the right eye, and no improvement by glasses. The media was normal, perfectly clear, and the fundus showed nothing abnormal. The caliber of the vessels was normal. The field, however, showed a uniform contraction. The field for white and for colors was markedly contracted, and, as you will observe, the color fields are reversed, that is, the red field is smaller than the green. The left eye had only perception of shadows; pupillary reaction good; media clear; the papillæ well defined, and all I could make out was a fulness of the retinal veins. I did not see the patient again until December. Her physician reported to me that two months after the examination the vision of the left eye returned. She was comparatively free from headaches all summer, so that the parents concluded to send her the Ogontz School. Two weeks after school began the headaches returned, and grew very severe and almost continuous. She kept up her studies with the greatest suffering. When she came home for Christmas vacation, she came to me for an examination (December 27). Vision in the right was $^{20}/_{30}$; in the left eye $^{20}/_{100}$. Refraction tests were made; I put the eyes under cocain and homatropin and found the following: Shadow test of the right eye showed astigmatism of .5D, which was confirmed by the tests: 1D + with 50 cylinder, 90, gave her under homatropin, $^{20}/_{40}$ vision. Left eye, shadow test, did not show any astigmatism, but plain hypermetropia, and 2D gave vision $^{20}/_{40}$ minus. The optic discs looked clear; vessels normal; only the coloring of the discs seemed to have a peculiar glistening appearance. After the effect of homatropin had disappeared, Dec. 29, the test showed that the accommodation was restored, but weak. R. + 1 with 50 c. 90 $^{20}/_{40}$; but + 1.50 ⌒ + 1 c. 90 $^{20}/_{20}$. L. + 2 $^{20}/_{70}$; but + 2.50, $^{20}/_{40}$.

Ordered R. + 1.50 ⌒ + 1 c. 90. L. + 2.50D. for constant use.

These glasses were given with the hope that they would have great influence upon the persistent frontal headaches. She wore glasses continuously for a week, but no relief had been experienced up to that time. The fields of both eyes were again taken in two ways: 1. Starting from the lower margin, I went around the temporal side, and the next time I reversed the order, going around the nasal side, finishing with the temporal side, to see whether the fields showed any difference; and they do in this case. The color fields again are much contracted, but this time the green field was smaller than the red. The left field is a very peculiar one, also taken in both directions without showing very much difference in extent. The field extends downward very much; above it is very much contracted, having a sort of kite-shape. On account of the change in the fields at different days, and from the quick recovery of vision in the left eye and change of vision in the right eye, I regard the case as one of hysteric amblyopia. When I saw the case first, with slight enlargement of the vessels in the left eye, I suspected some retro ocular difficulty; but the examinations in December and January did not show any difference in the vessels, and whether the peculiarity in the color of the disc amounts to anything, I am not prepared to say. The rapid changes of the field and sight certainly point toward hysteria as the cause.

Dr. WILDER—The case described by Dr. Hotz I happened to see in an attack of sudden partial blindness in the left eye. I examined the field and found the characteristics of hysteric amblyopia, and gave a favorable prognosis. She entirely recovered her sight during last summer.

Dr. HAWLEY—In a case I recently had I found the changes in the violet and blue fields more marked than in the red and green.

Dr. W. F. COLEMAN—Most of you will recall that at a previous meeting of the Society I exhibited a patient upon whom I performed Mule's operation. Tonight I wish to report the sequel of that case, which is not so favorable. Two weeks after I had shown him to the Society the glass ball began to appear. I freshened the edge of the wound and closed it with sutures, but not successfully. One night before the glass ball escaped there was excruciating pain in the stump. Within two days the eye began to get inflamed, and very soon a well marked case of serous iritis developed, which, I confess, suggested to me a sympathetic origin. The pupil dilated well and regularly under atropin. I gave mercury internally, also hot applications, and recovery is taking place slowly from the iritis. His vision is today $^{20}/_{20}$ minus. I have also inserted a ball in the conjunctival sac, and that behaved itself respectably and made a good stump. I have tried a sponge in the capsule, but that did not gratify me, and suppuration followed. I believe it is difficult to implant a sponge under the tissues and make it remain without suppuration following.

Dr. CLARK W. HAWLEY—I wish to report the condition of the man I exhibited to the Society about a month ago, in whose eye there was a dislocation of the lens after needling. Absorption went on quietly without further operation, and he now has vision $^{6}/_{9}$, with + 10D spherical. I saw him a day or two ago, there being no disturbance from the dislocation whatever, and the capsule is very clear. I expected a poor result, but it is very good indeed. The spots seen on the anterior surface of the capsule are not now visible.

San Francisco Society of Eye, Ear, Nose and Throat Surgeons.

January Meeting.

Dr. BARKAN presented the case he had exhibited at the December meeting of the Society, of specific disease affecting both eyes, with a gumma of the left eye, on the globe, and subconjuctiva (vide JOURNAL, Jan. 7, 1899). The patient had been taking 20 grains KI three times daily, with inunctions of 40 grains ung. hydrarg. daily. The various syphilitic lesions had almost disappeared. The iritis of O.D. was quite gone, the gumma of O.D. had melted away till but a trace remained to indicate what had been; the ulcerations on the forehead, forearm and legs were nearly healed, and the gumma on the right tibia was almost imperceptible. The result of specific treatment was most remarkable.

Dr. Barkan also presented two cases of foreign bodies in the eye in which the foreign material, being iron or steel, had been removed by means of the Haab magnet. In the first case the wound of entrance could be seen, but the posterior chamber was quite dark, no reflex being obtained. It was decided not to attempt to draw out the foreign body through the wound of entrance, so a fresh incision was made in the lower outer quadrant, iridectomy performed, and the wound approached near to the tip of the large magnet. On closing the electric circuit about the magnet, intense pain was felt by the patient, and the particle of steel immediately appeared. The eye recovered without incident, but the sight has not returned. There is no detachment of the retina, nor is the posterior chamber apparently filled with blood, yet there is almost no reflex, and merely light perception on the part of the patient. The Doctor was quite unable to explain the condition as found on examination.

The second case was not seen till one week after the injury to the eye. In the meantime the patient had been in the hands of a general practioner, who assured him that there was no foreign body in the eye. When seen by Dr. Barkan, there was merely light perception, the corneal wound was quite visible, and there was traumatic cataract. That the foreign body was still in the eye seemed evident, so the Doctor made use of the Haab magnet, with most satisfactory result. At the first attempt considerable pain was complained of by the patient, thus confirming the doctor's opinion that a foreign body was located within the globe. After a few closures of the circuit about the magnet, the foreign body was withdrawn through the wound of entrance. The patient made an uninterrupted recovery and the vision was steadily improving.

A third case in which the Haab magnet had been used was presented by Dr. Barkan. In this case the patient presented himself with the front of the eye very badly torn. A piece of steel of large size had struck somewhat above the corneal margin, tearing the cornea, the iris, and wounding the lens. When placed in front of the Haab magnet, however, the patient complained of no pain, and several trials failed to bring forth any foreign body. In this case the total absence of pain was almost enough to indicate that no foreign body could be in the eye, for unless the particle of iron or steel is located in the lens, there is always pain when the eye is approached near to the magnet. Careful treatment had resulted in a good recovery with a useful and not unsightly eye.

Dr. MARTIN presented a case of tumor of the sclerotic, just to the inner side of the corneosclerotic line, in the right eye. The tumor had existed for several months, though as the patient was an exceedingly ignorant Italian, it was not possible to elicit any exact information from him. The tumor was about 7 cm. long by 2 or 3 cm. wide, the long diameter being vertical. It was whitish in color, plainly beneath the conjunctiva, and apparently not at all movable. About it for a few centimeters was an area of rather deep congestion. It was somewhat tender. Dr. Martin expressed it as his opinion that the growth was malignant in its nature, though he had but that day seen the patient, and so had not had time to remove a portion for microscopic examination.

Considerable discussion was evoked over this case, opinions

differing widely as to its probable nature. Dr. Barkan thought it was not a malignant growth, but was more of the nature of a pterygium that had been irritated, and as it were, developed "corns." Dr. Pischel agreed with Dr. Barkan in the opinion that it was merely a pterygium of unusual growth and formation. Dr. Martin was firm in his diagnosis, but said he would operate on the patient at an early date and advise the Society at some future meeting as to the exact nature of the growth.

Dr. BARKAN then exhibited a set of tuning-forks known as Bezold's Continuous Tone Series. They were especially designed and constructed for Dr. Bezold, and have been extensively used by him in making very careful examinations of the hearing. The forks are of various sizes and are so made that by changing weights on the forks, vibrations of any number of waves per second may be obtained. The lowest is sixteen, and from that point they run up to the extreme limit of tuning-fork usefulness. The series is completed by two pipes and a Galton whistle made with a micrometer screw attachment so that its range may be very accurately gauged. Dr. Barkan said that he had made use of the series in two cases of deaf-mutism with some success, and that he thought results could be obtained. He first very carefully examined the patient to ascertain just what tone could be heard, and then practiced him with that tone and others very near to it. He had also found the set to be useful in a case of sudden loss of hearing in a woman who showed some symptoms of specific disease, but in which case the attendant physician was very loath to admit a diagnosis of syphilis. The woman was apparently perfectly deaf, but on very careful examination with the series of forks, the Doctor succeeded in ascertaining that she could hear tones above a certain number of vibrations. He, therefore, was of the opinion that she had a syphilitic affection involving some of the terminal filaments of the auditory nerve. She rapidly improved in her hearing, and eventually entirely recovered on syphilitic treatment, thus confirming the diagnosis.

Dr. WAGNER spoke of some cases of persistent cough which he had recently met with in his practice, and in which a careful examination of the nasal secretions disclosed the fact that the bacillus of whooping-cough was present in large numbers. He urged the necessity in very many cases which fall within the province of the nose and throat specialists, of careful microscopic examination of the nasal secretion.

Dr. W. A. Martin was elected president for the ensuing year, Dr. Pischel, treasurer, and Dr. Cox, secretary.

SELECTIONS.

Congenital Absence of the Clavicles.—Two instances of this rare anomaly are reported in the *Lancet* for Jan. 7, 1899, one by Dr. Gustave Schorstein and the other by Dr. George Carpenter. The latter is additionally interesting from the existence of deformities of the clavicles in five other members of the same family. The first occurring in a girl, 13 years old, presented a history and evidences of rickets. With the child standing still, the front of the chest exhibited no obvious abnormity. The shoulders dropped slightly and fell a little forward, and there was a continuous surface on either side in front and above in place of distinct supraclavicular and infraclavicular fossæ. The thorax itself was fairly well shaped, with a displacement of the sternum backward. On drawing the finger along the side of the clavicle on either side, it was found that the outward two thirds of both bones were absent, with, on the right side, a small spicule of bone about two-fifths of an inch in length articulating with the right acromion, as shown also in a skiagraph. The inner third of each clavicle was present, articulating, apparently, by a good joint with the sternum and ending externally in a fairly sharp point immediately under the skin. This piece seemed to be fibrous or cartilaginous and not bony, and it did not show in the skiagram. To it, on each side, was attached the clavicular portion of the sterno-cleido-mastoid muscle, which was perfectly developed on both sides. On turning the head to the opposite side and pulling on the clavicular head of the sterno-cleido-mastoid, the external end of the clavicle present was made prominent. The first rib and the attachment of the scalenus anticus muscle could be readily mapped out and the subclavian artery could be compressed on the upper surface of the first rib. There was no cervical rib. The scapulæ were small and in alar position, and at first glance they gave the impression that there was no supraspinous fossa. A small supraspinous fossa and a supraspinous muscle were, however, found on either side. The arms and legs were small, but fairly shaped and not bent. All the joints were good. The teeth were much decayed, the enamel of the free edge of the upper central incisors was irregular, but in shape and appearance the teeth did not suggest syphilis. The second case was in a girl, 8 years old, whose brother had a similar deformity on one side, her father a deformity of the clavicle and a depression of the lower part of the sternum, and two older sisters had clubfoot; another child exhibited a depression in the middle of the sternum. In the patient herself the clavicles were represented by two small fragments, thin, tapering and cartilaginous, attached to the sternum by their broader extremities; one was one and one-quarter and the other three-quarters of an inch long. On the index finger being pressed behind the outer extremity of either fragment each could be dislocated so that its direction was nearly straight forward. In this position a depression of the lower part of the sternum was evident and the sternum was seen to be unusually wide at its upper part. As the child stood upright the shoulders were obviously narrowed; they fell downward and forward, the scapular angles projecting backward to a marked degree, and under the acromion was seen a depression as in a subglenoid dislocation. What appeared to be the first rib could be felt with great distinctness on either side, as could also the coracoid processes. Between each coracoid process and the acromion was a well-developed coraco-acromial ligament, and so apparent were these ligaments that they raised the suspicion of acromial clavicular fragments. The sternomastoid muscles apparently had some attachments to the fragmentary sternal clavicles. The clavicular portions of the great pectoral muscles were wanting, but the pectoral portions stood out well when placed in action. The anterior portions of the deltoid muscles were also missing, as were also the clavicular fibers of the trapezius muscles. The child was thin and her muscles were not well developed, but she was not by any means wanting in power. She could approximate her shoulders to an extraordinary extent with the greatest ease, as she could also cross the arms behind the head, with the elbows pointed upward several inches apart. The scapular borders could be made to touch behind and even to overlap. By muscular action the shoulders could be made to touch the ears. The arms could be as readily approximated in front of the body, the elbows being placed anteriorly. When the arms were extended above the head the tops of the shoulders looked downward and the scapular angles projected posteriorly at a much higher level; the elbows and the ulnar borders of the arms looked forward; the neck was bent and the head projected forward. A skiagraph showed the shadow of two fragments lying in the position of the sternal ends of the clavicles, that on the left being the longer. No trace of the outer part of the clavicle could be seen on the right side, but on the left there was merely a faint shadow, suggesting from its size and position a cartilaginous rudimentary clavicle, with a more or less ossified inner end. The enlarged transverse process of the last cervical vertebra was so enlarged as to suggest an approach to a cervical rib. The heads of the proximal phalanges of the fingers were enlarged on the palmar aspect and there was thickening of the skin and subcutaneous tissues in these situations. The joints could be easily overextended. The clavicles of the father of the patient were divided into two parts. On the right the acromial fragment was nearly a finger's breadth lower than the sternal; the tip of the former was internal to the latter, by which it was overridden for one-half inch. Both ends were rounded and the inner was thickened. On the left side much the same deformity existed, except that the inner end of the outer ragmen

was not displaced downward more than one-half inch or so. The ends of the bone were slightly movable—the outer fragments less so than the inner. The length of the inner fragments was nearly three inches. When muscular action was brought into play the man failed to approximate the shoulders in front by two and one-half inches. The brother of the patient, aged 14 years, presented no deformity on the left side except that there was a prominent arching forward of the clavicle. On the right side the clavicle was divided into two fragments. The sternal portion was two and one-quarter inches in length, fairly movable upward and downward, but it could not be brought forward. The outer part was one and one-quarter inches inches in length, seated at a lower level and more internal, being overridden by the sternal fragment. Both ends were rounded and there was, as far as could be determined, ligamentous union. The transverse process of the last cervical vertebra appeared prominent on the right side and possibly also on the left. As the boy stood, the right shoulder was at a lower level than the left and both scapulæ were prominent, though there was little difference between them, but what difference there was was in favor of the affected side. In another brother, aged 19 years, both clavicles presented a peculiar kink in the position where the fragments in the other cases were separated. The clavicles stood out prominently at this point. There was no solution of continuity. He presented a sternal depression large enough to admit half of an ordinary orange. The xiphoid projected a little forward, the end of the gladiolus backward, and it exhibited a shallow depression, but the depression was really made by the heaping up of the ribs in the neighborhood. A sister, aged 12 years, was also deformed. Her left clavicle was natural, but on the right side there was solution of continuity. The sternal fragment was a little over two inches in length and the acromial one and one-quarter inches or more. Both ends were rounded and the sternal fragment overlapped the acromial, which was placed much the same as in the other cases. The sternal end was freely movable up and down and to a much less extent forward. On the right side the last cervical vertebra presented an enlarged transverse process or possibly a cervical rib. Another brother, 16 years old, had normal clavicles, but the tranverse processes of the last cervical vertebra seemed prominent. A brother, 7 years old, had a deformed clavicle. This was divided as in the others, but to a much less extent. The outer fragment was one and one-half inches in length and the inner one and three-quarters inches. The bone, at first appeared to be unaffected, but more careful examination revealed an indentation, which was found to be owing to a close approximation of the fragments. Mobility was slight, though apparent, in all directions. The fragments were either united by a ligamentous band or there was a false joint. The sternoclavicular joint was loose, and this end could be moved in a marked manner in various directions. The left clavicle exhibited a depression in the corresponding part, but there was no solution of continuity. The transverse processes of the last cervical vertebra appeared to be prominent.

Atrophic Changes of Old Age: Their Prevention.—Dr. Albert Saitz, in the *Medical Record*, writes that, owing to the atrophic changes of age, not only the weight but the height of the body is diminished, the body as a whole being shorter and lighter, while its individual parts are also lessened in size, with the exception of the heart and kidneys. The heart as a rule is hypertrophied, while the kidneys are at least the size they were in middle life. Changes take place in the skin, rendering it dry and wrinkled, the hair becomes thin and white, the teeth drop out, the body bends. These changes induce a general decrease in vigor; the power of the muscles is lessened; the combustion going on in the body is diminished, as is shown by a decrease in the amount of carbonic acid gas exhaled. The vital capacity of the lungs is decreased, although there is a quickening of the respiratory rhythm. The pulse-rate rises, the secretions are diminished, and the quantity of urine is less. Such, briefly stated, are some of the characteristics of old age. This period of life is more liable to certain diseases, as those due to arteriosclerosis, to certain forms of rheumatism and gout, and so on. What produces these changes, and is there no way to retard or prevent them? If we could obviate them even in a measure, how great would be the benefit, and with what rejoicing would the earth's inhabitants hail the discovery, especially those among them who have begun to enter the shadows which gather about life's evening. In the cycle through which a portion of the material world revolves, from the organic to the inorganic, from the living to the dead and back again to the living, it would appear that, as old age approaches, the material of the animal body takes on more and more the nature of the inorganic and becomes more and more akin to the mineral world. When an individual starts in life he appears to be endowed with a certain power or ability to maintain his status in the highly organized animal world, and to resist largely the tendency of his tissues to become in their chemic nature more nearly akin to the mineral kingdom. What this power consists in I do not know, but it seems to be greatly impaired by age. Now, if by introducing into the body certain agents which might render the excess of accumulating mineral matter more soluble, so that it could be more easily eliminated from the body, we might get rid of one element that contributes largely to the deterioration and degeneration that come with old age. Again, all animal and vegetable tissues when young possess in a large measure this resistance toward the changes that take place in senility. Then, why would it not be a feasible and rational idea for those who are approaching the period of life when senile changes begin to make their appearance to take as nourishment only the tissues of young animals and vegetables, and thereby supplement their waning power of resistance with that of those organisms which contain it in abundance? And also, as we now have a process of treating certain diseased conditions of different organs of the body with the products of the corresponding organs of animal bodies (and I believe with some success), why could benefit not be derived by administering the quintessence of the organs of young and healthy animals to those whose bodies are beginning to show the effects of age, and in that way furnish them artificially with the power to resist the encroachments of time? Two or three times a year, for instance, we might administer this treatment for a week or two at a time, and who can say that we might not retard in this way the capture of life's citadel by the king of the glass and scythe?

An Anecdote of Simpson and Syme.—Dr. Joseph Bell, in the *Scalpel* for November, recounts some of his experiences with the magnates of Edinburgh, a generation ago. He appears not to have been especially partial to Sir James Simpson, but says of him that he probably was the greatest genius of them all, though those who were followers of Syme and admirers of Christison found it hard to believe it. A many-sided, inventive, and versatile being, with a most winning tongue, great industry, and enormous power in getting other people to do the rough of the work for him, while he divided the spoils, he probably bulked much less largely in the eyes of the students and young practitioners than he did in the eyes of the lay public and the world of rank and fashion. His position in the medical faculty of the Senatus was not unmingled bliss. It was, alas, an open secret that the medical professors did not emulate the early Christians in loving one another. From the peaceful distance of another generation, probably a less strenuous one, certainly veneered with a more polished and colder surface, it is difficult to realize the strifes and animosities

which broke up the profession of that day into hostile camps. What would be said now were a professor to tear up a scientific pamphlet by a colleague and consign it to the sawdust tray dripping with blood, as its fit receptacle. "I well remember, more than thirty years ago, the absolute contempt with which my teachers regarded this affection, now well recognized as a source of annoyance, even of broken health. Professor Simpson had recognized some cases and had lectured on the subject. One famous case has probably never been described in public. It had been seen and diagnosed by one eminent man as a typic example. The patient was a friend of Carlyle, who knew Syme. Carlyle, was anxious that Syme should verify the diagnosis and give advice. The lady (for all the cases seem to have been in females) came to Syme. He diagnosed a mass of retained feces, ordered castor-oil and suitable injections, the kidney disappeared into the bedpan, the patient was cured, and floating diagnosis received a wholesome stimulus to accuracy. You can fancy the racy Carlylese in which the result was blazoned forth."

Mushrooms in the Regular Army Ration.—In the "Manual for Army Cooks," prepared under the direction of the Commissary-General of Subsistence, may be found directions for the preparation of deviled crabs, apple dumplings and sundry rarer vegetable products, including mushrooms. As to the latter, the Manual gives directions for distinguishing the edible sorts, as follows: "They first appear of a round form on a little stalk; they grow very fast, and as the size increases the under part gradually opens and shows a fringy fur (called gills) of a delicate salmon color. After the mushroom is a day old this salmon color changes to a russet or dark brown. They have an agreeable odor, the flesh is compact and brittle, and the skin more easily peeled from the edges than in the poisonous kinds. The seeds or spores are white and for the most part roundish or oval. An edible mushroom should have not only one of the above characteristics, but should combine them all." This is a pretty safe rule, for if one follows it he will certainly never be poisoned by mushrooms, for he will never eat any. Such a mushroom is not yet known to science. If the Commissary-General of Subsistence thinks otherwise let him ask some mycologic sharp to give him the name of the mushroom that combines all the above characteristics, especially the salmon turning to brown gills with "white spores." In the directions for detecting poisonous mushrooms the Manual says: "If a white peeled onion is cooked with mushrooms and turns black, or if a spoon used for stirring them while cooking them turns black, it is safest not to eat them." Just so, but the converse is not true—if the spoon should not turn black it does not follow that the mushrooms are wholesome. The safest rule for the army boys to follow will be to let the cook gather, prepare and eat the mushrooms. If he eats and lives, all right, but if he does not let them change the cook and try it again. Seriously, the sections treating on mushrooms should be stricken out, or else rewritten by someone who has at least an elementary knowledge of the subject.—*New York Times.*

Mouth-Breathing.—Dr. G. A. Evans (*Brooklyn Med. Jour.*, January) says that he has found a large number of children who become mouth-breathers because the upper lip is unduly short, a condition that may sooner or later lead to catarrh of the upper air passages. As to the question of occurrence of mouth-breathing among the Indians he has met, he says: "Some years ago I saw a number of Indians and I can readily recollect that many of them were mouth-breathers. One thing that may perhaps favor the Indians is that they are not subject to the dust of cities as we are, and, as we all know, a great many infectious diseases are set up by micro-organisms which gain entrance to the body through the respiratory tract. It is practically impossible for them to get into the body through the nasal passages if they are normal; mouth-breathers inhale them and if a predisposing factor is operating at the same time, it is not at all strange that they should become subjects of infectious diseases. The mouth-breather's chest is somewhat different from the form of chest which occurs in children as a result of nasopharyngeal lymph adenoids. In ordinary respiration, children and young adults are pretty apt to use all those respiratory agencies which are found to be the least laborious, and abdominal breathing is the least so. The superior costal respiration is most difficult and tiresome. In mouth breathing the air-passages and the lungs are filled so rapidly and so readily and with so little effort that abdominal breathing is apt to be indulged in; in such subjects the apices become flattened from lack of use. In cases of obstruction of the nasal passages and pharynx we have a sinking in of the inferior costal portion of the chest. This is due to the fact that the caliber of the nasopharynx for the passage of air is so reduced that the inspiratory muscles, operating powerfully, suck in the lower ribs. If the upper air-passage, that is the space for the passage of air into the trachea, is sufficiently large, then the whole power is exerted upon that column of air, but if the air does not pass in rapidly enough a portion of this power is exerted on the lower ribs and in that way the depression results. My attention has been lately called to cyclists, particularly those who sprint, riding rapidly, especially on an up grade or on a road that is sandy; they almost all of them open their mouths; not because they have nasal obstructions, but because the nasal passages themselves are not sufficiently roomy to admit of a sufficient supply of air for the work they are doing. I have seen a number of cases of pulmonary tuberculosis which have occurred in what are called 'sprinters,' in very powerful young men, which without the slightest doubt have been the result of mouth-breathing occasioned by rapid riding through dusty streets and highways, as I have described."

Chestnuts as a Food in France.—According to *Consular Reports*, December, the failure to raise Indian corn as an article of diet among the poorer classes in France is, to a certain extent, replaced by the popular chestnut. Throughout the center of this country, from the Bay of Biscay to Switzerland, there are large plantations, almost forests, of chestnut trees. These nuts differ very much from the ordinary species indigenous to the United States; they are broad, large, and resemble the American horse chestnut or buckeye (*Æsculus hippocastanum*), and are extensively eaten by human beings and animals. Great care is taken in harvesting this nut before severe frosts touch it, as freezing hastens fermentation. The poor people, during the fall and winter, often make two meals daily from chestnuts. The ordinary way of cooking them is to remove the outside shell, blanch them, then a wet cloth is placed in an earthen pot, which is almost filled with raw chestnuts; they are covered with a second wet cloth and put on the fire to steam. Hot steamed chestnuts are carried around the city streets in baskets or pails; the majority of the working people, who usually have no fire early in the morning, eat them for their first breakfast, with or without milk. Physicians state that, as an article of food, chestnuts are wholesome, hearty, nutritious and fattening. These nuts are often used as a vegetable and are exceedingly popular, being found on the table of the well-to-do and wealthy. They are served not only boiled, but roasted, steamed, puréed, and as dressing for poultry and meats. Chestnuts are made into bread by the mountain peasantry. After the nuts have been blanched they are dried and ground. From this flour a sweet, heavy, flat cake is made. It resembles the oaten cake so popular among Scotch peasants. They are extensively employed for fattening animals, especially hogs. The nuts are boiled without shelling; only small, inferior fruit is thus used.

PRACTICAL NOTES.

Inhalation in Catarrh of the Upper Air-Passages.—E. Ziffer considers a spray of salt solution the best treatment, also inhalations or sprays with pine-tar preparations. Hot steam is injurious.—*Klin. Therap. Woch.*, Dec. 25, 1898.

Improved Soluble Tablets for Pyrosis.—Magnes. ust. 22.5 gm., borac. 5 gm., gummi arab. 2.5 gm., glycerin 50 drops; aq. citrat. (corresponding to 0.5 gtt. ol. citri) 8 gm. M. F. Pastill, lx.—F. Penzoldt: *Klin. Therap. Woch.*, Dec. 25, 1898.

Mercurialized Artificial Serum in Syphilis.—Mourange injects, every other day, the following: .01 gm. of sublimate to 4 c.c. of a solution NaCl, at 7.50 per 1000. After twenty injections he waits fifteen days, and follows with ten more injections, usually sufficient for the cure. He has been well satisfied with the method during the past five years.

To Disguise the Taste of Quinin.—The *Gazzetta degli Ospedale*, Dec. 27, 1898, publishes the following formula: Quinin sulphate 4 gm., citric acid 10 gm., simple syrup and syrup of orange-peel āā 10 gm., aq. dest. q. s. for 20 c.c. Pour ten drops of this mixture into fifty grams water, and add three grams of sodium bicarbonate. Drink while it is effervescing.

The Hepatojugular Reflux.—If the myocardium of the right auricle is debilitated, bimanual compression of the liver will produce distension by reflux in the superficial jugular vein, especially on the right side. This sign is important in confirming a diagnosis of cardiac insufficiency, and indicates the necessity of treatment to strengthen the myocardium.—Rondot: *Gaz. Hebd. des Sci. Med.*, Nos. 48, 49 and 50.

Fissure in the Bone in Distortion of the Foot.—Reinhardt has found, in twenty cases out of twenty-eight, that by palpating he was able to discover a small fissure in the bone, which prevented the cure; in two cases, as late as twelve years after the traumatism. Small detached fragments of the bone should be excised. Radiography is the best means to diagnose such cases.—*Cbl. f. Chir.*, Dec. 31, 1898.

Symptoms of Pancreatic Lithiasis.—Among the symptoms that indicate a lesion of the pancreas are glycosuria, steatorrhea, sialorrhea, general malaise, vomiting and emaciation, while the presence of calculi in the feces indicates lithiasis. The pain is deep along the costal border, a little inside the mammary line, radiating toward the spine and toward the left scapula.—A. Cipriani: *Therapeut. Monats.*, November, 1898.

Pollutions and Spermatorrhea.—M. Popper has obtained fine results in these cases with faradization of the prostate. He considers the condition the consequence of insufficiency of the sphincter of the seminal vesicle, resulting from venereal excesses, gonorrhea or onanism or possibly a neurasthenic basis. The rare cases due to a central origin were not affected by the faradization.—*Klin. Therap. Woch.*, Dec. 25, 1898.

Nervous Symptoms in Uremia.—Fürstner has been making a study of the pupil and reflexes during uremic intoxication, on animals and man, and announces that when an attack is imminent the pupils contract more and more, the tendon reflexes become exaggerated, the cutaneous reflexes diminished. If his statements are confirmed by others they will prove valuable as indications of approaching danger.—*Revue Gen. de Path. Int.*, Oct. 5, 1898.

Preparation of Mercury for Intravenous Injections.—Papparelli recommends a new preparation having the chemic formula: $C_{10}H_{16}O_6N_2Hg$, for this purpose, as more effective and less painful than the sublimate, and describes his success with injections of .02 gram of this preparation in 1 gm. of physiologic solution. Nine to ten injections resulted in the complete cure of several cases of syphilis, others requiring forty to fifty. The cures were more rapid than with the sublimate; there was no pain and no nodules were formed.—*Gaz. degli Osp.*, Dec. 25.

Backward Luxation of the Thumb.—A case reported by Moty, the result of a bicycle accident, is instructive. The hand was held in flexion and forced pronation, and by applying his two forefingers below the head of the metacarpus, with the thumbs at the base of the phalanx, on the dorsal side, and exerting gentle pressure in two opposite directions, while raising the injured thumb nearly to a right angle, the luxation suddenly subsided and the thumb returned to its normal position. All previous efforts, mechanic, etc., had been ineffectual.—*Revue Méd.*, January 4.

Diabetes and Psychic Disturbances.—Laudenheimer noted sugar in the urine of thirty out of 1250 insane inmates of asylums. He asserts that chronic diabetes frequently coincides with chronic cerebral affections accompanied by dementia, while transient glycosuria occurs with acute psychic disturbances, usually cases of extreme melancholia. It has been established that psychic disturbances may produce diabetes, and there is also an acute diabetic delirium, evidently the equivalent of diabetic coma, and possibly of a purely chemic nature.—*Revue Gen. de Path. Int.*, Oct. 5, 1898.

Antimonium Chlorid on Lupus Patches.—For small, superficial patches Unna has been using, for some time, the following salve, applied with a wooden spatula after cocainizing the region affected: Salicylic acid and antimonium chlorid āā 2 gm., creosote and extract of cannabis indica āā 4 gm., lanolin 8 gm. Cover the region with a zinc oxid adhesive plaster; renew in twenty-four to forty-eight hours. The tuberculous nodules subside very rapidly, and healthy granulations soon take their place.—*Semaine Méd.*, Dec. 21, 1898.

Solid Food in Typhoid Fever.—W. Buschujew reports better results with a series of eighty soldiers with abdominal typhus fed with bread, a chop, boiled meat, eggs, milk, tea, wine (one or two ounces), than with a series of seventy four fed with liquid food. Since the introduction of solid food two years ago, there has been but one death from perforation and two from generalized peritonitis, out of 509 patients. There were no local complications with the solid food; the general health was less depressed and recovery more rapid.—*St. Petersburg Med. Woch.*, Nov. 26, 1898.

Significance of Levulose in the Urine.—Robinson and Marie call attention to the fact that the elimination of levulose seems to coincide with certain disturbances in the nervous system, in which symptoms characteristic of severe neurasthenia predominate: insomnia, the idea of crime, and a tendency to suicide. Early recognized, this form of diabetes yields promptly to treatment, while otherwise suicide or some other tragic occurrence may result. The diagnosis should be based on the urine. Seliwanoff's reagent, estimation of the total sugar, and estimation of the light-rotating power in proportion to the amount of sugar.—*Presse Méd.*, Sept. 17, 1898.

Naftalan.—E. Saalfeld reports 115 cases treated with naftalan in his polyclinic and summarizes his opinion as follows: "It has proved an effective remedy for eczema in all stages, for light cases of psoriasis, especially on the face, also light cases of herpes tonsurans and prurigo, and it exerted a favorable influence in sycosis parasitaria and vulgaris, and the inflammatory swellings accompanying gonorrhea. Extremely rarely does it produce any irritation of the skin."—*Derm. Ztft.*, December, 1898.

Massage of the Stomach Mucosa.—A. Richter has been very successful in cases of persistent vomiting in nervous or hysteric cases, by introducing a flexible sound with a rounded end, into the stomach, and twisting it gently around for three or four minutes, thus lightly massaging the mucous membrane. One hysteric patient that had been tormented for four years, with persistent vomiting, was cured in eighteen days; the massage every day at first, and then every other day, introducing the sound in such a way that the end curved

over ... loop. This treatment is strictly counter-indicated if there are anatomic alterations in the gastric mucosa, and also in the vomiting of pregnancy or tabes.—*Gaz. degli Osp.*, Dec. 27, 1898.

Natrium Glycerino-Phosphoricum and the Nervous System.—Max Kahane confirms the favorable results attained by others with this substance, derived from glycerin-phosphoric acid, a product of the decomposition of lecithin. His patients were mostly cases of functional neurosis, and all expressed a sense of feeling better and fresher after taking it, although the separate symptoms were not particularly benefited. It seems to have a general stimulating and tonic effect on the nervous system as a whole. His formula was: Natrii glycerino-phosph. 25 gm., aq. dest., aq. naphae, āā 55 gm., syr. cort. aurant. 20 gm. A teaspoonful three times a day in a little water.—*Klin. Therap. Woch.*, Dec. 18, 1898.

Endometrectomy.—By this name Casati has introduced a process of extirpating the entire mucosa of the uterus through the abdomen and incised uterus, as a last resort in cases of hemorrhagic endometritis, and still save the organ. A. Dührssen has performed the operation four times, but by the vaginal route. After incising the anterior vaginal vault, the anterior cervix wall is exposed, and the peritoneum detached from the anterior fundus wall (extraperitoneal method), or the fold incised (intraperitoneal). The anterior wall of the uterus is incised as far as the fundus. A transverse incision is then made and the mucosa of the uterus and of the cervix excised, and the incisions sutured in turn.—*Cbl. f. Gyn.*, 1898, No. 50.

Chlorid of Lime in Gynecology.—Cheap, non-toxic, non-caustic, a solution of chlorid of lime will be found more effective than sublimate as an antiseptic, while it dissolves and sweeps away the mucous secretions, instead of coagulating them, like sublimate, creosote, nitrate of silver, etc., thus forming a protective coating for the micro-organisms in the depths. Prepare by adding 100 grams of well preserved lime to 1200 grams water; shake, let it settle for an hour, filter into a liter bottle of black glass, cork with an emery stopper and paraffin. One glass of this "strong solution" is added to nine glasses of warm boiled water for the "ordinary solution," which is about as strong an antiseptic as a 1 to 1000 solution of sublimate, and is effective in vulvo-vaginitis, cervicitis, inoperable cancers, etc., shortens the course of female gonorrhea (Pettit and Bonnet), and is especially successful in endocervicitis with viscid secretions. —*Presse Méd.*, Dec. 21, 1898.

Cutaneous Affection from Handling a Plant.—A number of cases of a cutaneous affection, irritation of the hands, forearms and face, with redness, swelling and unbearable itching were traced to the presence of that popular plant, a primrose, in the rooms or hothouse. The affection would heal and disappear and then suddenly revive again in all its intensity. Treated with "zinc glue" it rapidly heals, and the removal of the plants or wearing gloves, prevents any further appearance of the affection. The plant does not affect all persons in this way; a certain predisposition seems to be required or an existing seborrhea. E. Wermann, who reports a number of interesting observations in the *Derm. Ztft.* for December, 1898, adds that possibly a number of cases of chronic seborrhea or dermatitis may have originated by repeated intoxication with the *primula obconica*, the cause of the annoying recurring skin trouble unsuspected at the time.

Arsenious Acid in Epithelioma.—Reviewing the twenty-five observations published, Pascal has established the following indications for this treatment, which consists in the application of an aqueous-alcoholic solution of arsenious acid varying from 1/150 to 1/80 (vide JOURNAL, xxx, p. 1116). "The Czerny-Trunecek method is indicated for a superficial epithelioma, progressing slowly, with slight destructive tendency and without ganglionary propagation, such as are observed on the face, especially in elderly persons. The simple technic, the freedom from danger, the favorable results, testify to its usefulness in these conditions. It is generally contraindicated for a deep epithelioma, with ganglionary engorgement, for recurring neoplasms, and for a marginal epithelioma when it encroaches upon the mucosa. Nevertheless, the treatment can be attempted with some chance of success, in the early stages of a deep epithelioma."—*Annales de Derm.*, November, 1898.

Sugars as Diuretics.—Large doses of sugars frequently produce a diuretic effect, but it varies from one person to another, and even in the same person. The diuresis as regularly follows the subcutaneous injection of sugar as its ingestion. Saccharose or ordinary sugar is the most powerful in this respect. Increasing the amount of sugar does not increase the diuresis, correspondingly. Not being toxic, sugars can be administered for this purpose a long while, combined with other diuretics. Their action is similar to a renal diuretic, but without the slightest nervous disturbances, which gives them the advantage over caffein, for instance. Next in order to saccharose and sugar, come inverted sugar and lactose. Glucose is most effective taken by the mouth. As the sugars act by a sort of dehydration of the blood, they seem indicated in dropsy.—*Revue Gen. de Path. Int.*, Oct. 5, 1898.

The Respiratory Interchanges in Diabetes.—Robin and Binet assert that the interchange of gases is much increased in diabetes, over normal, especially the absorption of oxygen, and all the general interchanges are exaggerated, showing that diabetes is a disease due to exaggerated nutrition. There is a direct and almost constant proportion between the amount of sugar excreted and the amount of the respiratory chemic processes. Dieting and a sedative treatment of the nutrition decrease the respiratory interchanges along with the glycosuria, and as long as the former persist exaggerated, no diabetic can be considered cured, even if the glycosuria has disappeared. If the respiratory interchanges diminish very much in a diabetic, particularly if the glycosuria is not diminishing at the same time, there is danger of coma, and the defective chemic processes should be stimulated by every possible means.—*Rev. Gen. de Path. Int.*, Oct. 5.

Ocular Disturbances Accompanying First Menstruation.—Fachatte's Paris thesis, 1898, is a careful study of the accidents that may occur with commencing menstruation. The ocular disturbances are the least known among them, but are often serious. Puch reports cases of interstitial keratitis, iritis, hemorrhagic choroiditis, optic neuritis and separation of the retina. Caudron mentions cases of double exudative choroiditis and iridochoroiditis, all consecutive to the first menses. Others report embolism from some menstrual cause, and others hemorrhage in the anterior chamber, cured by the first menses. Schevansky has observed six cases of iritis and iridochoroiditis in girls with irregular menstruation, and Pargoire reports a case of an iridochoroiditis developing at puberty, with constant catamenial exacerbations.—*Gaz. degli Osp.*, Dec. 22, 1898.

Surgical Intervention for Facial Neuralgia.—At a recent discussion, at the Paris Society of Surgery, all agreed that this was only to be attempted after the failure of all known medical means. Guinard reported one success after resection of the alveolar border of the jaw bone (Jarre's op.), six after resection of Meckel's ganglion, and one after resection of the Gasserian ganglion (Poirier's op.). Poirier reported the death of a man 63 years old, fifteen minutes after an apparently successful resection of the Gasserian ganglion. Reclus has had one success with the Jarre operation; another, an elderly woman without teeth, relapsed after four months. Reynier has been successful each time with the Jarre operation in the case of toothless elderly subjects, but not with young persons, whose neuralgia is evidently derived from some other cause. "Commence with a slight operation. It may prove sufficient, and if not, is easily enlarged.—*Revue de Chir.*, Nov. 10, 1898.

Casimiroa Edulis.—This rutaceous tree, the "*zapote blanco*" of the "Mexican Pharmacopeia," was made the subject of examination by Professor Maisch of Philadelphia, twelve years ago. He wrote (*Am. Jour. of Pharm.*, April, 1886) that the fruit was anthelminthic; that the pulp of the fruit was said to be hypnotic, though unwholesome; and that the seeds were regarded as poisonous. Now, according to the *Therapist* (July 15, 1898), a new hypnotic, analgesic, and antithermic has been extracted from the seeds. Long experimentation, it says, and tests on several hundred persons, have established its freedom from secondary effects, and determined its toxic dose. It seems "to favor natural sleep, from which one wakes refreshed" in from four to six hours, and its use is especially appropriate in insomnia from cerebral excitement of alcoholism.—*N. Y. Med. Jour.*

"Horn-Skin" for Orthopedic Appliances.—O. Vulpius reviews the disadvantages of all the various materials used in the construction of an orthopedic apparatus (*Munich Med. Woch.*, Dec. 27, 1898) and states that he has been using a new material, "horn-skin" (*Hornhaut*), for two years, in his orthopedic-surgical institute at Heidelberg, and every month adds to his appreciation of the new material, which he recommends in high terms as practically never wearing out or losing its shape, light, odorless, shiny, readily washed off, not affected by dampness, and the weight and the expense about the same as with cellulose. The material is the raw hide of an animal, dried, the hair removed, and impregnated with a varnish. One hide will make a number of appliances. After cutting a paper pattern of the apparatus, a corresponding piece is cut out of the hide, soaked twelve to fifteen hours in water, when it becomes as pliable as wet blotting paper and is fitted over the cast, the edges tacked down and the whole placed in the oven for six days. After the first twelve hours, the perspiration holes are cut, which can be very numerous without interfering with the solidity of the appliance, and a coat of varnish is applied. When dried, it is varnished again inside and out, and, after two more coats, the apparatus is completed. He has made 150 artificial limbs with the thickest skins; 100 corsets with the thinner kind, and found them more satisfactory than any before in his experience.

Hypertrophic Stenosis of the Pylorus.—Boas contributed a study of three cases to the *Arch. f. Verdau. kr.* of April 1, 1898. He observes that this trouble belongs especially to the first half of life, and only becomes serious in the course of years. At first there are indications of dyspepsia, vomiting, usually rather late, at the disturbed compensation period. An important sign is the retention of the appetite. There is never hemorrhage. The stomach is not much dilated. The diagnosis is made from the stagnation with occasionally peristaltic motion toward the stenosed point. The absence of hydrochloric acid and of ferments, indicates a profound alteration in the mucosa, and the duration and improvements noted demonstrate a benign process. This stenosis is distinguished from the cicatricial by the absence of hemorrhage and of hydrochloric acid; from primary atonic dilatation by the peristaltic movements and by the more pronounced indications of gastritis. The youth of the subject militates against cancer, also the duration of the affection. The gastric motility is less with cancer, and there is black vomiting. The presence of a tumor is not decisive. The prognosis is serious; without intervention the stenosis terminates fatally, depending upon the degree and the gastric motility. Usually the subjects can take plenty of liquids without stagnation. If not, an operation is indispensable. If the subject can still eat, an operation is questionable. Irritating foods should be avoided and liquids taken freely. Hydrochloric acid, pancreatin and papain can be given. In Boas' cases gastro-enterostomy was performed, with complete success in two cases, and marked improvement in the condition of the third.—*Revue Gén. de Path. Int.*, Oct. 5, 1898.

Thyroid Treatment in Gynecologic Therapeutics.—Dr. Hertoghe of Antwerp has established that women deprived of the thyroid gland are subject to excessive menstrual discharges; as they grow older the menses last longer and longer, and finally become almost a constant flow. He has also noticed that a hypertrophied thyroid is always accompanied by an early and copious mammary secretion. He has established, by tests on milch cows and other animals, that the secretion of milk is much increased by the ingestion of thyroid extract. He summarizes the results of much study in the following statements: Myxedematous hemorrhage is directly amenable to thyroid treatment, and also hemorrhages due to even an old endometritis or ovaritis. Every menorrhagia is favorably influenced by thyroidin. Cancerous hemorrhages cease after three or four days of thyroidization. The pain, swelling and congestion also decrease to a noticeable extent. Thyroid treatment is especially indicated in cases of frequent abortion, in which the menstrual flow is so excessive that it sweeps away the impregnated ovum. He cites an instance of a woman who was able to conceive and bear a child, thanks to thyroidin, after many years of sterility. Thyroidin is also useful in cases of uterine myoma, prolapsus or retroflexion with hemorrhage, and, in general, in all cases in which it is necessary to reduce the size, sensibility or congestion of the uterus. On account of the peculiar action of thyroidin in stimulating the lacteal secretion, it should be administered if this secretion seems to be diminishing.—*Revue Méd.*, January 4.

Jambul in Diabetes.—Dr. Arthur W. Smyth reports (*American Practitioner*) that he has had good results in employment of this drug in diabetes mellitus. He reports the following case: The patient was a male, white, aged 26 years, and had been sick one year. He was very much emaciated, weighed ninety pounds, the legs edematous, so weak he could hardly walk, the skin undergoing a branny desquamation, teeth all loose, and the odor of acetone on his breath. Report of the urinary examination was as follows: Twenty-four hours, amount eleven pints; reaction, acid; specific gravity, 1028; albumin present; sugar 7.6 per cent.; urea 2 per cent.; microscopically, pus, epithelium and fungi in abundance. He was placed upon codein, which was rapidly increased to tolerance, and at the close of eighteen days was taking eleven grains three times a day, with no decided benefit, urinary examination then showing about nine pints daily, and sugar 7 per cent. The codein was then discontinued and powdered jambul substituted, five grains four times a day and increased, with the result that nine days later he passed but four and a half pints of urine in the twenty-four hours with only 2.6 per cent. of sugar. He felt so much improved at this time that he discharged himself. The experience of the reporter in this, and in a few other cases has led him to look upon the drug as having a decided effect in ameliorating the prominent and disagreeable symptoms. He has seen his patients rapidly gain in weight and strength, without untoward effect or toxic results from the use of the drug, although as much as an ounce of the powder has been daily administered. He says further: "I am convinced that the negative results that have been reported by others were due to one of six causes: The drug was not given a thorough trial; an idiosyncrasy was present; the preparation given was manufactured with the aid of heat; the specimen was inert from being too old; some other disease was also present which was not actively treated; or, lastly, the writers in question did not obtain seeds from the Java plant. Many of the favorable reports included the statement that one very valuable property of jambul was that it rendered dieting the patient unnecessary; however, I think that in some of the cases at least a moderate restriction of starchy substances will be found helpful. Another important point to be remembered is that the existence of any concomitant disease must be determined, and vigorous and appropriate treatment instituted. If the above precautions are heeded, and the drug is taken in increasing doses, evidences of its beneficial effect will appear with a rapidity that is astonishing.—*Am. Prac. and News*, Dec. 1, 1898.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per Annum, in Advance $5.00
Foreign Postage 2.00
Single Copies . . . . . 10 Cents

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SATURDAY, FEBRUARY 4, 1899.

THE DANGERS OF INSECT BITES.

One of the most consoling things about the recent advances of science is the surprising way in which they are justifying our prejudices, one after another. It was consoling to have the likings of the natural man for sugar, for white bread and for cold drinks in fevers, for instance, endorsed as rational. But to have our dislikes supported is a positive triumph Our prejudices are the things which we are really proud of.

The unregenerate human being has always had a natural objection to being bitten by gnats, mosquitoes, fleas, and other insects, an objection whose intensity and vigor—and corresponding warmth of expression—is out of all rational proportion to the damage or even discomfort inflicted. The piping of a solitary mosquito will banish slumber as effectually as a burglar-alarm, and the persistent attentions of a single fly will rouse us to a frenzy of irritation and revengeful fury. We never think of saying to ourselves, "Oh well, let him bite and go and be done with it." We invariably waste ten times the nerve-energy and peace of mind that the bite would have cost us, in trying to avoid it.

But is this vivid antipathy so irrational after all, in the light of the discoveries of the last few months and weeks? If, as the experiments of Ross in India, and GRASSI and BIGNAMI in Italy seem to have almost proven, the mosquito is the chief, if not the sole, agent in the spread of malaria, the most widely prevalent and probably most seriously disabling disease of man, do we not well to be extremely sensitive about being bitten? Our swamp-dwelling ancestor, from whom we inherit the aversion, knew nothing about the malarial parasite, but he does seem to have stumbled upon the idea that mosquito bites in excess were distinctly unhealthy, judging from the horrible oils and grease-pastes with which he regularly anointed himself for a protection.

When the mosquito theory of malaria was suggested some ten years ago, by LAVERAN himself, it was at once objected that there were many places where mosquitoes abounded, but where there was no malaria, and for a time this seemed a fatal objection. Now, however, the already famous researches of GRASSI have shown that only a few species act as carriers of the infection, and that the distribution of one of these (*Anopheles claviger*) very closely corresponds with that of malaria. The commonest species of all, *Culex pipiens*, is quite harmless in this regard and often abounds where no malaria is present. Moreover, *Anopheles claviger* is active only for a brief period just after sunset, which, according to the universal tradition of the peasantry of the Campagna, is precisely the time of day when the danger of catching the dreaded "Roman fever" is greatest. From his description, *A. claviger* would seem to closely resemble one of our large American species, known to settlers in the west as the "black head," or the "gallinippers," whose bite is peculiarly dreaded. Old settlers have assured us that they never would take up a farm where "gallinippers" were abundant, as it was sure to prove "onhealthy," and have warned us never even to camp in places where they were to be found.

The question whether mosquitoes do spread malaria is one of the greatest interest to western and southern physicians, and one which their immense fund of practical experience with the disease and a few months' careful observation ought to enable them to settle once for all. If it be true, it would certainly help to explain some of the vagaries of the distribution of malaria. The well-known fact that the houses upon the northern and eastern banks of rivers, even built on high bluffs far above the water, are much more subject to the disease than those upon the western or southern banks, may be readily accounted for by the marked prevalence of south and southwesterly winds during the summer months, which, though they could not carry the plasmodium in any of its forms or stages, could easily drive the mosquito; or, more accurately, cause them to drift inevitably in that direction, as they are quite incapable of making headway against any but the gentlest breeze, and hence must fly with the wind. In a real wind, or even a brisk breeze, they can not fly at all, and this explains the puzzling immunity often enjoyed by houses situated on the "first terrace" of the bottom-lands and quite close to the bank of the river, while those built much higher up on the sides of the

river valley suffer severely. There is nearly always a good breeze in the neighborhood of running water, and as the mosquitoes are bred, not in the river, but in the swamps and bayous in the trough of the bottoms nearer the foot of the bluffs, they naturally avoid the brisk current of air along the course of the stream and drift up under the shelter of the bluffs. Furthermore, it furnishes the first satisfactory explanation of the sudden disappearance of the disease after the first sharp frost, which, though it does not freeze over the swamps, or prevent the "malaria" or "ague-fog" from rising, does kill the adult mosquitoes. The months of greatest prevalence of the disease and greatest risk to the "tenderfoot," August and September, are also those of the height of the mosquito season.

It has long been a matter of puzzled conjecture among frontier physicians why, in the early settlements of Iowa, Kansas, Nebraska and Minnesota, ague was abundant and severe, in spite of the rolling surface, clay soil and excellent drainage, while in the course of fifteen or twenty years it rapidly diminished and ultimately disappeared. But here again its variations are absolutely parallel with those of the mosquito. Mosquitoes abound upon the virgin prairie, breeding in the small ponds and "sloughs" which dot its surface. These, however, are drained, one after another, as the country gets settled up, and the mosquitoes disappear and with them the malaria. So that it would really seem as if the general trend of western experience would lead us to attach a good deal of weight to BIGNAMI'S few cases of success in healthy and non-malarious convicts by making them sleep in a room containing mosquitoes which had been allowed to bite a patient suffering from malaria. Similar results were also obtained in birds.

There is another curious fact to which we can not resist the temptation to allude, though it may have no real bearing upon the question, and that is the popular belief among settlers of the "river-rat" type that there is a connection between mosquitoes and malaria, but of precisely the opposite character: that the bite of the mosquito in some way protects against malaria. As one of them expressed it to the writer, "every skeeter bite is wuth as much to ye as a dose er quinine, ef ye only knowed it." New arrivals are urged to go and get themselves well bitten so as become quicky "'climatized." We have always regarded this belief as simply a far-wandered survival of the old puritanic idea that whatever was particularly disagreeable must be "good for us" in some way. But may there not be a grain of truth in it after all? There usually is in most popular superstitions. Thousands of the "harmless" species of mosquitoes must suck the blood of malarious patients, and if they do not complete the development of the parasite and transmit it in full virulence in their saliva, like *Anopholes claviger*, is it possible that they may either transmit it in attenuated form, or an antitoxin resulting from its digestion in their stomachs? Certain it is that the hope of the early settlers was not to avoid malaria, but to have it soon after their arrival in their new location, and in a mild form, after which they could reckon upon a certain degree of immunity so long as they remained in that neighborhood.

Nor have we much less reason to be sensitive about the bites of other insects, even of that one which one of those nuggets of the crystallized stupidity of our ancestors, known as proverbs, contemns as the most trifling of all possible incidents—"a mere flea bite." The recent researches of SIMOND, summarized some weeks ago in our columns, have shown conclusively that fleas and common flies are the principal means of conveying the contagion of the bubonic plague from rat to rat, and from rats to man. Indeed, he boldly declares that the plague has usually a definite point of entrance in some region where the skin is thin and vulnerable, which may perhaps throw some light upon the well-known preferences of the buboes for the groin, a specially favorable point for the infliction of flea bites. Bedbugs also act as carriers of the plague virus, and according to several Italian investigators, are capable of transmitting both tubercle and an infectious form of adenocarcinoma from diseased to healthy white mice. It is more than suspected that these two domestic pests may be responsible for some of those puzzling cases of *syphilis insontium* in which there is no history to be obtained or reasonably suspected of sexual infection or a definite primary lesion. The numerous cases of death following a single fly bite, recorded in literature, which we have hitherto dismissed with a shrug of our shoulders, were not improbably cases of some infection transmitted by the bite. There appears to be good reason to suspect that common house flies may carry the poison not only of the plague, but of diphtheria, scarlet fever, yellow fever and anthrax. Nor does the well-known experience of the lower animals in the matter of insect bites, tend in any way to reassure us. The celebrated tsetse fly, that pest of South Africa, has been proved by BRUCE'S experiments to transmit by its bite a hematozoon which develops in the blood of the horse, just as the mosquito does with the hematozoon Laveran in our own species. The ingenious experiments of THEOBALD SMITH have demonstrated that Texas fever is transmitted solely by the bite of ticks, and the extraordinary vagaries of the spread of the deadly rinderpest can only be accounted for by flies as the agents in its distribution. In one of these cases something of our own nervous dread appears to be developed: as "salted" horses, i. e., those that have recovered from the bite of the tsetse, are said to be driven almost frantic by the appearance of a single specimen of the fly, even by the sound of the peculiar low buzzing note.

THE VALUE OF THYROID EXTRACT.

Of the many important remedial agents that have attracted the attention of the medical profession, the use of the various body extracts probably ranks second to the so-called serum-therapy. Of all these extracts, none is entitled to so prominent a place as that derived from the thyroid gland. It has long been recognized that the normal thyroid produces a secretion—what it is we do not know—of the highest value to the accomplishment of those uncertain changes occurring in the economy to which we have given the name "metabolic." For pathologists have shown us that in cretins this gland is absent; in myxedema, that closely allied disease to cretinism, either atrophy has taken place or some other pathologic process—tuberculosis or cancer of the thyroid or what not—that has interfered materially with the proper manufacture of its secretion. It was not long, then, until experimental research proved that administration of extracts of the gland to those afflicted with disease in which the thyroid was absent or was non-functionating frequently worked the greatest benefit in that disease—and the chain was complete. On the other hand, when hyperplasia was present in the thyroid gland, the clinical picture completely changed; in the place of lethargy and slowness of movement and thought, even to imbecility, there was activity of purpose and of mind, though often wrongly directed; lastly, when the cervical sympathetic was, so to speak, thrown off its balance, we had presented an exophthalmic goiter with its marked vascular phenomena, its rapid, in place of slow, cardiac action, and that condition of mind to which the title "nervous" has so often been applied. What more probable than that an increase in the amount of normal thyroid tissue should be followed by a corresponding increase in the amount of secretion, an amount in excess of the need of the body for proper metabolic changes? We might go a step further and look upon exophthalmic goiter as a poisoning of the body, if you will, with thyroid secretion, leaving for a moment all conflicting theories out of the question.

The treatment first instituted—removal of the thyroid—often brought about the most disastrous results, aside from the dangers of the operation itself. Might not this be analogous to the condition of a system saturated with alcohol (or other drug-producing habit) suddenly having the drug withdrawn entirely? Delirim tremens or even a fatal termination has not been an unusual sequela of this latter. When a small piece of the gland has been allowed to remain, the results have invariably been more encouraging. We must infer from this, *a priori*, that this remnant is able to supply something very needful to the economy. Perhaps the mistake has been made, not in leaving a small piece, but that too small a piece has been left; that the operation should be to remove a small section at a time, allowing between each operation an interval for the individual system to become accustomed to the withdrawal of the secretion; in other words, to pursue a line of treatment similar to that so successfully employed in the treatment of the various drug habits. The operation itself is no light one, as many mortalities have shown, and this fact alone would militate against frequent thyroidectomies; indeed, many authorities have asserted that the operation is unjustifiable in simple exophthalmic goiter, and should only be instituted for the removal of new growths. It must be admitted that the use of electricity, tonics and the thymus gland have frequently worked unexpected wonders in both forms of goiter, but where such means fail—and they should always be tried—it seems to the writer that a graduated removal, if it may be so termed, as suggested above, would not be an irrational proceeding.

Naturally enough the exhibition of thyroid extract in these goiters increases the unpleasantness of the symptoms; indeed, this might be used as a test in masked cases of exophthalmic goiter, as suggested by SHEVE. Nevertheless, up to this time, treatment with thyroid extract has been empiric, though, as has been the case often in experimenting with new substances, great benefit has been derived in channels entirely unexpected; so with thyroid extract in obesity. Many cases of obesity have been reported in which thyroid extract has accomplished wonders, but it has remained for ROBERT HUTCHINSON (*British Medical Journal*, July 16) to point out the "why" of the treatment; in other words, to give scientific reasons for the value of this substance in this disease. It has been found experimentally that, by the use of this extract, nitrogen is eliminated with greater rapidity than normally, which means that the substances in the economy from the splitting up of which this element and its body compounds are formed are being burned up, so to speak, with corresponding quickness. Experiment has also demonstrated that increased oxygen is taken up in the combustion of these tissues, which increase we would naturally expect; and that carbon dioxid, less than the corresponding amount of oxygen taken in but greater than normal, is eliminated. This combustion takes place in the body fat, as the latter is eliminated, but not proportionally to the increased elimination of nitrogen. While the extract acts to a great degree upon the fat in the body, it must not be forgotten that the muscles suffer also to a large extent, as proved by the greatly increased elimination of nitrogen. Were only the fat of the body destroyed, we would have an ideal drug for the rapid cure of obesity. As it is, if we direct our obese patients to take large quantities of proteid foods, we can in this way prevent to a great extent, or at least compensate for, the destruction going on among the nitrogenous compounds of the body. Thyroid extract is also claimed by some authorities, when given in sufficient quantities, to render the system unable to use the fat-

producing substances that may be introduced. This may explain the good results sometimes obtained when the fats for some reason can not be interdicted.

CRIPPLE MANUFACTURE FOR BEGGING PURPOSES.

The *British Medical Journal* recently stated that the manufacture of cripples to be let out as decoys for the alms of the charitable, is still said to be a flourishing industry in some parts of the Pyrenees. It would appear, remarks the same journal, that this is not one of the many inventions which make the so-called nineteenth century famous in the records of the ages, for FABRICIUS HILDANUS, in his chapter on preternatural tumors, relates the following story: "In the year 1593 there was seen in Paris a boy of fifteen or eighteen months, the skin of whose head was so much stretched that it greatly exceeded the size of a natural hydrocephalus. The father and mother of the child carried him about from place to place as a monstrosity. As the concourse of people was great the magistrate suspected that there was some fraud in the matter and clapped the father and mother into prison. Being put to the question (a euphemism for the torture), they confessed their crime; to-wit, that they had made on the top of the head, right down to the muscles, a small hole, through which having pushed a syringe they blew air between the skin and the muscles in such a fashion that, little by little and repeating the process every day, they had made the swelling. The syringe being taken out, they stopped the hole with wax, or something of the kind."

The manufacture of cripples, not merely for begging purposes, but also for exhibitions, is much older than here indicated by the *British Medical Journal*. The manufacture of dwarfs was a feature of Accadian and Egyptian civilization six thousand years ago. Of the Accadian procedures, China of today is a fossilized representative. Dwarfs are still made in China according to the procedures described in the Accadian clay books. The Chinese take a child two or three years of age, and place him in a porcelain vase of eccentric form, without either top or bottom, so that his head and feet pass through. By day this vase is kept in an upright position; by night it is laid down so that the child can sleep. Thus the child increases in size without growing taller, filling the cavities of the vase with his compressed flesh and distorted bones. This growth inside a bottle lasts many years. At a certain moment it becomes irremediable. When it is thought that it has set, the vase is broken and the child emerges, and there is a man in the shape of a jug.

EBERS, the Egyptologist, founded the medical part of his romance, "Uarda," upon the revelation of the medical papyrus discovered by him. In it he describes the procedure adopted by a sorceress to turn a little child into a dwarf, which closely resembles the Chinese procedure. As quackery always underlies and even overshadows science, in accordance with the law that every truth is overshadowed by a sophism popularly more like the truth than the truth itself, these procedures became systematized and formed the basis of an association for the purchase and remaking of children, its procedures being described by Dr. CONQUEST in the sixteenth century. With slight exaggeration, the seat of this association is excellently described by VICTOR HUGO in the novel, with a purpose, "The Man Who Laughs," whose guiding principle turns upon mutilation of children. HUGO, whose data are from historic sources, designated this association as that of the "Comprachicos, or Child Buyers." These child buyers had their center, as the name would indicate, in Spain, and particularly in the Pyrenees. HUGO makes his comprachicos speak Basque; their procedures are described quite fully by Dr. CONQUEST. The detection during the present year of this brutality in the Pyrenees would indicate that HUGO was in error when he remarked: "The comprachicos were a bizarrely hideous nomad association famous in the seventeenth century, forgotten in the eighteenth, and unknown today. They were honest men. They opened a door, entered, bargained for a child, paid and carried it away. The comprachicos were catholics, and even good catholics, as befits an association which had its origin in pious Spain." The artificial manufacture of "freaks" by these associations, as is evident from the citation from the *British Medical Journal*, lasted much longer than VICTOR HUGO indicates in the remarks just quoted. The comprachico association had branches in England, Germany, Russia and Italy. Traces of the various branches were and are still to be detected in the countries named.

In the early part of the present century, an advertising quack, "Dr." HARPER, was detected carrying on under his advertising quackery an institution for the manufacture of "freaks" for the English and Continental market (*Chicago Medical Review*, Vol. iii). He twisted a child's head in an apparatus devised by himself, so that it would look permanently over one shoulder. He grafted a rat's tail on a child's nose. He manufactured "double monsters" by removing slips of flesh from the backs of two children and allowing the wounds to cicatrize together. After the children recovered, they were taught music, dancing, French and Italian. He was particularly strict about their observance of the Sabbath. He had a regular catalogue of prices to showmen, who were allowed a discount when the subject was furnished.

The investigations of the infamies of the Italian padrone traffic in children give significant indication that mutilation of children for begging purposes is not unknown today among these apostles of organized mendicity. The *Medical Record*, nearly a decade ago (Vol. xlii, p. 26), pointed out that Paris was supplied with artificial cripples from Spain. There were then, the *Record* remarks, in Paris some twenty culs-de-jattes, or beggars without legs, whose condition had

been brought about by art. In Spain there are wretches who buy children (generally selecting the infirm, deformed or idiotic) from their parents. When these unfortunates reach the age of 7 or 8 years, their legs are swathed so tight as to stop the circulation. The limbs thus atrophy, but when the child is exceptionally strong one leg is a "success," the other being merely ankylosed. In this cruel business perverted religion plays a part; the children being made to believe that they are gaining paradise. The parents receive a dime a day for a year, this being doubled if their child is blind or has lost an arm. In 1887 the French minister of the interior forbade these culs-de-jattes to enter French territory.

The industry has doubtless fallen off in the English-speaking countries, because of the reaction against indiscriminate alms-giving produced by the exposure of its evils by MALTHUS. The more rigid supervision given the traveling shows, under the influence of the exposure of their abuses during the forties and the reduction of the circus features of itinerant quacks all combine to decrease the market for these freaks. The increase of humanitarian sentiment against the employment of children under 14 years of age also engendered a supervision in the English-speaking countries. Like influences were exerted in Holland, Germany and the Scandinavian countries. In the Latin countries, however, these influences had but little, if any, power. Religious sentiment encouraged indiscriminate alms-giving, thus encouraging the manufactufie of freaks to excite sympathy. Until humane sociology of the type already described be engendered in the Latin countries, it is probable that these hideous brutalities will continue. The padrone industry in Italy is an unmistakably potent source of these infamies. In Spain, as the revenue for the convents from the colonies is now cut off, it is probable that hitherto indiscriminate alms-giving by these institutions will be reduced, and the greater supervision will be exercised over the objects of charity, of a kind tending to diminish this hideous industry.

While gross brutalities of this type are rare in the English-speaking, the German, and Scandinavian-speaking countries a less hideously brutal but equally cruel mode of levying tribute on charity occurs. Homes for children, where they are starved, beaten and half frozen, are created for the benefit of the home head. This has been the case notoriously in the famous New York Shepherd's Home of Shepherd COWLEY, who was sent, by the Society for the Protection of Children, to the penitentiary, in consequence of starvation and other cruelty. These "homes" indicate a still existent spirit of brutality ready to flower into the old cruelties, under favoring circumstances.

One phase of these mutilations, as described by CONQUEST, was the use of some form of anesthesia. Not only, as VICTOR HUGO remarks in a citation from CONQUEST) did the comprachicos deprive the child of his face, they took away his memory also. At least they took away as much of it as they could. The child was unconscious of the mutilation which he had undergone. This frightful surgery left a trace upon his face, not upon his mind. At the most he could remember that one day some men had seized him, then that he had fallen asleep and that afterward they had cured him. Cured him of what? He did not know. Of the burns with sulphur and the incisions with iron he recalled nothing. The comprachicos rendered the little patient insensible under the operation, by means of stupefying powder which passed for magic and suppressed pain. In the late sixteenth and early seventeenth centuries anesthesia was a known procedure among certain surgeons. MIDDLETON, for example ("Woman beware Woman" 1637), remarks:

> I'll imitate the pities of old surgeons
> To this lost limb; who, ere they show their art,
> Cast one asleep, then cut the diseased part.

The comprachicos altered the identity of unwelcome heirs more effectually than any "Iron Mask." The plot of "The Man who Laughs" turns upon the change of a comely legitimate heir to an English peerage into an eternally laughing mask. Today such employment for the comprachicos is out of date.

Mutilations in English-speaking countries are rare, still the importation of cripples (albeit checked by emigration laws) occurs. Societies for protection of cruelty to children, and humane societies, hence could find in the supervision of crippled beggars a much more humane field for their efforts than in attacks on vivisections made for the benefit of the race.

MALTHUSIANISM IN ENGLAND.

The JOURNAL has in times past noted the decrease in the birth-rate in different civilized countries, as a tendency of modern civilization that is worthy of careful attention by sociologists and medical men generally. The condition of affairs in France has been notorious, but the Teutonic peoples of Europe have been generally considered as less inclined toward a static or decreasing population. The latest report of the Registrar-General of England, however, gives figures that would indicate that the national disease, if such it may be called, has infected Great Britain also, as shown in a declining marriage-rate, with a corresponding decrease in the birth-rate, which Mr. HENRY MAY, in an article in *Public Health*, estimates at 15 to 18 per cent. The marriage-rate has been considered in times past an index of prosperity, but England has not been so particularly unprosperous of late years as to account for the decrease on this theory. It would seem more correct to seek for a reason in several conditions and tendencies of the present time that incline men to forego marriage and the raising of families for prudential reasons; in short, to the spread of *quasi* Malthusian ideas more generally throughout the population, with a higher grade

of living and culture of a certain sort. The *Medical Press and Circular*, in commenting on the fact, says, "the French sentiment as to marriage and the rearing of children seems to be making its presence felt in this country. It has been said, but we do not know with what truth, that among the upper classes in England the birth-rate has for long shown a declining ratio, and, on the other hand, that it is only within the past few years that a similar decline has been noticed among the lower classes. The moral of this demands no explanation; it may be many years before England finds herself in the position of having a declining population, but, as matters seem now to be tending, it must be confessed that such an eventuality is one which England will one day have to face."

It is commonly said, that at the present time the rich are becoming richer and the poor poorer. But here the poor seem to be approximating toward the rich, and the tendency is the more significant since it implies, if we understand it aright, a higher material ideal of living and a certain foresight, which if more fully developed, would tend to the extinction of the proletariat. It can not be said that the tendency is altogether admirable, though thrifty, and certainly for reasons of state it is to be deprecated, for a decreasing population is, under most conditions, a symptom that a country is on the down grade, if not exactly one of national degeneracy. It is, however, one of the facts that every highly civilized country is likely to have sooner or later to meet, with the present apparent tendencies of our civilization. Its manifestation in England is only a sign of the times.

It does not follow that it means necessarily race extinction in any case, for a population, like a river, will sooner or later find its proper *regimen*, to use an engineering term, and adapt itself to actual existing conditions. It is a sign, however, of the disturbed equilibrium of the present day and one that especially deserves the attention and consideration of our profession.

THE A. M. A. PRIZE COMPETITION FOR MERITORIOUS SCIENTIFIC WORK.

The attention of members of the ASSOCIATION is called to the following extracts from the minutes of the Executive Committee of the ASSOCIATION, dated June 3, 1897, and adopted by the ASSOCIATION, June, 4, 1897:

The proposal to restore the former policy of the ASSOCIATION in favor of offering to members a gold medal for meritorious scientific work, having been approved by the ASSOCIATION and recommitted for elaboration of details, the Executive Committee respectfully recommended:

1. That the design of the medal shall consist in the seal of the United States, or a seal of the ASSOCIATION to be hereafter designed, on one side, and an Esculapian staff on the other, together with the name of the recipient and suitable inscriptions.

2. That the commercial value of the medal shall not exceed $50 amended to $100 by the ASSOCIATION.

3. That a Standing Committee on Prize Essays consisting of members of the ASSOCIATION shall be elected by the Executive Committee as follows: One for one year, one for two years, one for three years, and thereafter one shall be elected yearly, to hold office until a successor has been elected. In no case shall a member of the Executive Committee hold a place on the Committee on Prize Essays.

4. That competing essays shall be typewritten or printed, and shall bear no mark revealing their authorship; but instead of the name of the author there shall appear on each essay a motto, and accompanying each essay there shall be a sealed envelope containing the name and address and the motto of the author, and bearing on its outer surface only the motto of identification. The envelope is not be opened by the Committee until a decison has been reached as to the most deserving essay and the other essays have been returned to their respective owners. The Committee shall have power to reject and return all essays, in case none has been found worthy of the ASSOCIATION medal. Competing essays must be in the hands of a Committee not later than March 1 of each year.

5. The Committee shall report to the ASSOCIATION at the last general session of each meeting, and the medal shall be publicly awarded by the President with suitable ceremony.

In accordance with the foregoing, the Committee request that contributors of essays in competition will forward their manuscripts to the Chairman by March 1. The Committee is composed of Dr. GEO. M. GOULD, chairman, 119 South Seventeenth Street., Philadelphia; Dr. E. FLETCHER INGALS, Chicago; Dr. T. W. HUNTINGTON, Sacramento, Cal.

CORRESPONDENCE.

A New Departure in British Medical Education.

LONDON, N. W., Jan. 5, 1899.

To the Editor:—The medical year in England has been marked by three most significant developments. They may indeed be described as epoch-making, although they will scarcely even be mentioned in the "Annus Medicus" or the year books. First and most important is the founding of the London Polyclinic and Medical Graduates' College; second, the establishment by the Government of the School for Tropical Diseases, and third, the magnificent gift of $1,250,000 by Lord Iveagh to the Jenner Institute of Preventive Medicine (vide JOURNAL, January 21, p. 146). These are not only important in themselves, but significant of profound changes in public opinion. The Polyclinic is the first formal and adequate recognition on the part of the profession of the value of post graduate instruction in English medical education. The School of Tropical Medicine is a partial recognition of the long ignored duty of the Government toward medical education and medical research, a most niggardly and inadequate one as yet, but still an "official" recognition. That such an idea has penetrated the official diploe at all is a triumph, even if it did get severely flattened in the process. Lord Iveagh is a worthy first-fruits of the awakening of the great donor class to the meritoriousness and public value of provision not merely for the care of the sick, but also for the careful study of disease with a view to its prevention. The hospital idea is a noble one, but the clinical laboratory idea is a saner and a more beneficial one. And whether the new and admirable Anglo-American *entente* has had any share in it, whether our English kinsmen have been consciously influenced by American example, we are especially interested in these developments, in that we may claim with cousinly pride to have preceded our island kin in all three of the advances. So that our own experience of their value gives an additional heartiness to our congratulations.

The departure which has by far the most immediate and

practical interest for us is the formation of the Polyclinic. The experience of the American post-graduate student in London hitherto has been one of about two drams of profit and three of irritation to the ounce of exertion. The causes of this are not far to seek. First and most insuperable of all is the geographic one. When Thackeray wrote of the "magnificent distances" of Washington, he had never attempted the round of the London hospitals. They range "from Dan even unto Beersheba," or at least their modern equivalents, Whitechapel and Paddington. From the Great Northern in Camden Town to Guys in the "under-world" south of the Thames is four miles, from the London in the East End to St. Mary's in the West is six, and the remaining hospitals are dotted all over this twenty-four square miles. And this in a city which, with due reverence and appreciation of the difficulties and yet with cousinly frankness, be it spoken, has one of the slowest, and certainly for a stranger, the most difficult and complicated street transit in the world.

The second reason is, that after the visitor has picked the right-colored bus, changed at the proper place and reached the hospital he finds no place prepared for him, scarcely even a niche into which he can slip. If he be surgically inclined he is best off, for then he can at least see operations from the top seat of the amphitheater. But if he be medical in his tastes, as all the clinical work is done literally at the "bedside," he is simply a wandering star at the tail of a comet consisting of from twenty to sixty students, and his view of the case, to say nothing of opportunities for physical examination, can be imagined. Even if he be known to the professor and given a front seat in the operating theater or a position at the bedside in the ward, he has an uncomfortable sensation that he is taking the place of some student or interfering with the view of the class.

Lastly, by the curious regulation in force at all the London hospitals, that every member of the staff *must* retire at the end of his twentieth year of service, he is often deprived of seeing or hearing half the most distinguished and prominent members of the profession. Indeed, as staff appointments are usually obtained between 25 and 35 years of age, it generally happens that just about the time a man has attained an international reputation, he is retired from public teaching and operating. And when a man has belonged to one hospital no other general teaching hospital would elect him to a chair, any more than a French general would appoint a German captain as a member of his staff. "Once a Bart's man, always a Bart's man," or Guys or London, as the case may be, is their motto.

The Polyclinic will remove all these difficulties at one sweep. It is not by any means the first scheme for post-graduate instruction which has been attempted in London. Nearly ten years ago a London post-graduate course was started, which, however, met only one of the difficulties complained of, inasmuch as its clinics were given in the different hospitals in which its faculty held appointments, and hence scattered all over London. It did good work, however, and as many of its faculty are cordially co-operating in the new venture, it is expected that the two will ultimately be merged. Some three years ago the various teaching-hospitals combined in a "League," which issued tickets admitting medical graduates to the practice of all of them. But this met absolutely none of the difficulties except giving the ticket-holder the poor satisfaction of feeling that he had a legal right to compete with the students for a view of the cases. The geographic difficulty has been met by securing a large and commodious building, formerly a boys' school, just off Gower Street station on the Underground Railway, and five or six minutes' walk of three of the largest railway terminals in London. What will be of more practical interest to most of us is that it is not far from the British Museum, and hence on the edge of what is known as the "American Quarter." The institution is organized for the most part upon the effective lines with which we are familiar in similar schools in New York, Chicago and Philadelphia. Short courses of systematic lectures upon the various practical subjects, well illustrated, will be given, classes formed in clinical laboratory work, the use of the Roentgen ray, etc. But the distinctive features of the scheme will be two—the clinical demonstrations and the information bureau. The demonstrations will be held every afternoon, and will be mainly upon the order of public consultations upon difficult, rare or particularly interesting cases, which will be sent up both by private practitioners and the hospitals. Each consultation will be attended by three or four prominent men representing so far as possible different branches of medicine, so that each case will be studied and represented from several different points of view.

The information bureau or central office will be under the charge of the resident medical superintendent and will carefully collect and furnish information as to lectures, demonstrations, operations and operation days at all the hospitals in London and the leading provincial medical centers. A daily bulletin-board will be prepared and a journal published, so that this will become the headquarters for medical information in London. And that such an institution is badly needed, every doctor who has attempted to study in London will emphatically testify.

It has long been a matter of regret to Americans studying abroad that immense resources at London, both of rare clinical material and of able teaching, should have been practically inaccessible to them. Within a few weeks this will have ceased to be the case, and as we have always had a strong feeling that the problems of English medicine were more closely similar to our own, its tone more sympathetic, and its methods of treatment both more practical and better suited for importation than those of the Continent, the tide which has been setting so exclusively in the latter direction is likely to turn, and that the new venture will represent the best and most interesting in English medicine, is sufficiently guaranteed by the fact that such men as Jonathan Hutchinson, Stephen Mackenzie and Sir Wm. Broadbent are the most active promoters, while among the cordial supporters and prospective consultants are Clifford Allbutt, Hughlings Jackson, Sir Henry Thompson and Sir Wm. Gowers.

The new departure will prove of the greatest practical value to us as a profession, but it is even more important as a significant sign of the conversion of the English profession to the value of post-graduate medical education. It has hitherto been content with its magnificent undergraduate course and high standards for admission to practice. It now realizes that these by themselves are not enough and may even encourage the strong tendency of the average graduate to begin to fossilize as soon as he gets into practice. But until it does so realize, with true British insularity it would not go one step out of its way to provide such instruction for foreign students, be they ever so numerous or so ready to pay for it. The difference in the irritability of different nationalities, in their responses to identic stimuli, is always interesting. The thrifty Teuton, the shrewdly practical Gaul long ago saw this "want and promptly made haste to fill" it. Whatever in reason the Western barbarian demanded and was willing to pay for he should have, and it should be served in "portions" or "half-portions" and flavored to suit. The sturdy Briton didn't care for the dish himself and would not trouble to serve it to others.

But his taste has changed, and we may certainly expect the new Polyclinic to both profit by the experiences of others and to reflect the spirit and the genius of its nation, even more truly and deeply than those of Vienna and of Paris. It may be of interest to note that the public-spirited Lord Iveagh, famous for his magnificent gift to the Jenner Institute, is the largest contributor to this new enterprise, also. W. H.

Operation for Hypospadia.

NEW YORK, Jan. 17, 1898.

To the Editor:—Operationes mutantur? This question passes into my mind when I read the notice you give my operation for hypospadias (vide JOURNAL xxxii, p. 31), after some non-essential modifications were made of it by Bardenheuer as well as by Hacker, in September, 1898.

Of course, occasionally something can escape the argus-eyed editor, and he will, when his attention is called to it, correct the omission. Therefore, I beg leave to direct your attention to the *N. Y. Medicinische Monatsschrift* for November, 1898, and the *N. Y. Medical Journal* for Jan. 29, 1898, in which I first published my method of mobilizing and displacing the urethra in correcting the deformity.

While it is far from me to dispute any merit that may be due a German surgeon, I have enough American vanity to ask priority for our country, when deserved, even if *I* have earned that priority. Yours sincerely,

CARL BECK, M.D.

Higher Rank Desired by the Medical Corps of the Army.

The medical officers of the Army have taken exception to the rank provided for their corps by the terms of the Hull bill, reorganizing and increasing the Army, now before the House in Committee of the Whole. They have addressed the Secretary of War on the subject as a means of bringing their views to the notice of Congress.

WAR DEPARTMENT: SURGEON-GENERAL'S OFFICE,
WASHINGTON, Jan. 14, 1899.

To the Honorable Secretary of War,
(Through the Adjutant-General of the Army).

Sir:—At a recent meeting of medical officers of the Army, we, the undersigned, were charged as a special committee with the responsibility of gathering the views of the Medical Department in relation to those provisions of H. B. 11022, which have in view the increase of the medical corps and of submitting the said views for your consideration, in the hope that they may meet with your approval and be referred to the Military Committees of the Senate and House of Representatives.

Individually, as members of this special committee, we disclaim any bias from self-interest in considering the subject. We submit the following statement, and urge the adoption of the recommendations herein made, having in view only the efficiency of the Medical Corps of the Army and the best interests of the military service.

At the beginning of the recent war, with a military force of less than 30,000 men, the medical corps consisted of 192 officers, of whom 1 held the rank of brigadier-general; 6 were colonels; 10 lieutenant-colonels; 50 majors, and 125 captains and lieutenants, the former grade being reached after five years of service in the latter. It will be observed that of this personnel, 3.1 per cent. had the rank of colonel and 5.2 per cent. that of lieutenant-colonel.

We here respectfully submit that, although our medical officers at no time made any complaint of having failed to receive from Congress as much consideration as the other staff officers of the Army, they were fully cognizant that, under the existing organization, it was possible for a medical officer to pass his life in active service and to be retired, at 64 years of age, with the rank of lieutenant colonel, or even with that of major. In fact, the last four medical officers who were placed on the retired list at 64 years of age, failed to reach the grade of colonel. Few can expect to become the chief of their corps, but it would seem to be a just expectation for an officer to entertain that after about forty years of service, he should go on the retired list with the highest rank in his corps—outside of the chief. Of the four medical officers recently retired as lieutenant-colonels, one, Lieut.-Col. J. V. D. Middleton, was called upon during the Spanish-American War to do the double duty of Chief Surgeon of the Department of California and Medical Supply Officer on the Pacific Coast, involving the great responsibility of outfitting the expeditions to the Philippine Islands.

In his annual report for the last year, the Surgeon-General recommended an increase of the medical corps as absolutely essential, in view of the increase of the enlisted strength of the Army to a total of 60,000 men, and the large number of stations to be garrisoned in the islands acquired and occupied by the United States. He recommended such additions as would give a total personnel of 280, of whom 8 should have the rank of colonel; 16 of lieutenant-colonel and 80 of major, giving percentages respectively of 2.9, 5.7 and 28.5; but he entered the proviso that any increase of the Army made by Congress during its coming session would necessitate a further increase of the medical corps.

Action has been taken by Congress in this latter regard. H. B. 11022 has been returned by the Military Committee to the Committee of the Whole House, and its provisions, as relating to the Medical Department, are as follows: 1 surgeon-general with the rank of brigadier-general; 10 assistant surgeons general with the rank of colonel; 20 deputy surgeons-general with the rank of lieutenant-colonel; 110 surgeons with the rank of major and 360 assistant-surgeons with the rank of captain and lieutenant, amounting to a total of 501 officers, the colonels constituting 2 per cent., the lieutenant colonels 4 per cent. and the majors 22 per cent. of the total.

It will readily be seen that when officers such as Drs. Middleton, Wolverton and Waters have to retire as lieutenant-colonels after a lifetime of service in an organization which has 3.1 per cent. of its members colonels, such retirements would be of more frequent occurrence in the proposed organization, which permits that grade to be held by only 2 per cent. of its members.

The first of the following tabulations presents the absolute numbers of the grades of the various staff corps, as proposed by the Hull bill (H.B. 11022); the second shows the numbers of the various grades as percentages of the totals of each corps:

ABSOLUTE NUMBERS.

Department.	Colonels.	Lieutenant-Colonels.	Majors.	Captains.	Lieutenants.	Total.
Adjutant-General	5	7	11	. . .	. . .	23
Inspector-General	4	5	9	. . .	. . .	18
Judge Advocate	5	4	4	. . .	. . .	13
Quartermaster's	8	16	25	70	. . .	119
Subsistence	4	8	12	37	. . .	61
Pay	4	8	47	. . .	. . .	59
Engineers	10	20	36	41	50	157
Ordnance	6	8	16	26	26	82
Signal Corps	2	3	5	12	15	37
Medical	10	20	110	360	. . .	500
All Staff Corps except Medical	48	79	165	277	. . .	569

PERCENTAGES.

Department.	Colonels.	Lieutenant-Colonels.	Majors.	Captains.	Lieutenants.
Adjutant-General	22	30	48	. . .	. . .
Inspector-General	22	28	50	. . .	. . .
Judge Advocate	38	31	31	. . .	. . .
Quartermaster's	7	13	21	59	. . .
Subsistence	6	13	20	61	. . .
Pay	7	13	80	. . .	. . .
Engineers	6	13	23	26	72
Ordnance	7	10	19	32	32
Signal Corps	5	8	14	32	41
Medical	2	4	22	72	. . .
All Staff Corps except Medical	8.4	12.9	29	48.7	. . .

The rank provided by this bill fails to do justice to the medical profession. It is needless to urge here the question of rank for the medical corps. That appears to be allowed and even high rank for a certain number has already been provided. The duties and responsibilities of the Medical Department have been fully brought out by the events of the recent war. The efficiency of the whole army may, under certain conditions, be dependent on the efficiency of the medical corps. The responsibilities of the corps are as great as those of any of the staff departments. Irrespective of their important duties with troops in the field, the surgeon who has charge of a general hospital containing 1000 sick men, has surely as great responsibility as the colonel of a regiment of 1000 well men, yet during the recent war, the officers in command of general hospitals and hospital ships had, as a rule, only the rank of major. H. R. 11022 gives the rank of colonel to *only 2 per cent. of the officers of the medical department, while 8.4 per cent. of the other staff corps have this rank.* It gives the rank of *lieutenant-colonel to 4 per cent. of the medical department and to*

per cent. of the other staff corps. Medical officers desire the responsibilities to be recognized and to be endowed with as much rank, power and position as officers of corresponding age and experience in the other staff corps. They desire especially that the organization of their corps should have that percentage of the two higher grades, outside of the Chief of the Corps, which would permit every one to look forward to retirement as a colonel after the honest and faithful service of a lifetime.

We, therefore, on behalf of the interests of the medical corps and their bearing on the efficiency of the Army, recommend that H. R. 11022 be amended so as to provide twenty instead of ten assistant surgeons-general, with the rank of colonel, and thirty (instead of twenty) deputy surgeons general, with the rank of lieutenant-colonel, and to reduce the number of assistant surgeons, with the rank of captain and lieutenant, from 360 to 300.

These numbers are not chosen arbitrarily, nor for the mere purpose of reaching a desirable percentage in the higher ranks, for it is easily demonstrated, by a consideration of the duties and positions to which the colonels and lieutenant-colonels should be assigned, that even a large number of such officers would be fully and constantly employed. The assistant to the Surgeon-General, the chiefs of the large and active divisions in his office, the Chief Medical Inspector and his assistants, the Dean of the Army Medical School, the chief surgeons of the numerous home and colonial military departments, the officers commanding the general hospitals of from 500 to 1000 beds, the chief surgeons of the large garrisons and camps assimilating a brigade organization, and the medical supply officers should all be of these grades, as such duties require officers of trained experience and of rank commensurate with their service and the responsibility of their work.

We would further recommend that promotions be made by seniority, after passing the examination required by existing law.

In submitting these recommendations we have in view only the evident and urgent needs of the service, as reorganized on the basis of a total membership of 501. Were we to give full expression to our views of what is desirable and would be beneficial to the Medical Department and the Army generally, we would urge the consideration and adoption of those provisions of Senate Bill 4900 relating to the Medical Department, which bill is now before the Military Committee of that body. It provides for a corps of 596 officers, comprising 1 surgeon general with the rank of brigadier-general, 20 assistant surgeons-general with the rank of colonel, 30 assistant (deputy?) surgeons-general with the rank of lieutenant-colonel, 175 assistant surgeons-general (surgeons?) with the rank of major, 120 assistant surgeons general (assistant-surgeons?) with the rank of captain, and 250 assistant surgeons general (assistant-surgeons?) with the rank of lieutenant, mounted. This total of 596 medical officers for an army of 100,000 men is relatively not so large as the medical force now in the service of the United States. The present strength of the regular army is in round numbers 55.000, and of the volunteer army 73,000 men, a total of 128,000, for whom are provided 892 medical officers, regular, volunteer and contract, or at the rate of one medical man to 144 soldiers. The 596 medical officers of Senate Bill 4900 provides one medical officer to every 168 men of an army of 100,000.

We would indeed go further than the said Senate bill when we consider the importance of a Medical Department of an army of 100,000. Whether it is viewed in the light of medical supply, involving the expenditure of large sums of money, in the light of sanitation, involving the military efficiency of the whole command, in the light of military administration over so many officers, hospital-corps men, nurses and hospital establishments, or in the light of caring for 10,000 men, or 10 per cent. of the Army, which is an average percentage of sick, in times of active service, the importance of the work and the extent of the responsibilities appear to us to be more than equivalent to those of a division commander who has the rank of a major-general. The Chief of the Medical Department in most European armies has this rank. We, therefore, are of the opinion that in recognition of the great responsibilities attaching to the surgeon-generalcy of such an army the officer holding this position should have the rank of major-general and that the senior of the assistant surgeons-general should have the rank of brigadier-general.

Respectfully,

(Signed) DALLAS BACHE,
Colonel and Assistant Surgeon-General.
(Signed) CH. SMART,
Lieutenant-Colonel and Deputy Surgeon-General.
(Signed) LOUIS A. LAGARDE,
Major and Surgeon.

PUBLIC HEALTH.

Spain's Losses in Cuba.—An item in a New York daily of January 25, is to the effect that according to figures published in Madrid, "80,000 Spanish soldiers perished, chiefly from sickness, during the last campaign in Cuba."

Smallpox at Ponce, Porto Rico.—Dr. Monet, Health Officer of Ponce, reports that "so far, the smallpox as an epidemic is confined to the native population and is of the confluent variety. An isolated hospital camp is desirable, but both the government and municipality are unable to provide the tents required."

Smallpox Among Zuni Indians.—A Santa Fe, N. M., dispatch of January 25, says that according to late information from the Zuni Pueblo, in the western part of the territory, smallpox is epidemic. The statement is that since the disease broke out 217 deaths have occurred and 600 Indians are ill, of whom possibly one-half will recover. Accounts vary.

Health in Indiana.—Reports from observers in about forty counties, for the week ending January 21, indicate a decrease in diphtheria, typhoid fever and diarrheal diseases, and indicate a marked increase in la grippe and pneumonia. Fatalities from grip are few. Reports say that a great deal of acute catarrhal inflammation is called grip.

Health in Chicago.—The report of the Board of Health of Chicago for December, 1898, gives the total number of deaths as 1849, 348 of which were persons under one year of age, and 220 between one and five years. The death-rate per thousand was 1.14, as compared with 1.10 for December, 1897. The principal causes were: Pneumonia, 282; nervous diseases, 203; consumption, 200; heart disease, 133; bronchitis, 109; acute intestinal diseases, 78; diphtheria and membranous croup, 77; cancer, 63; typhoid fever, 55.

Circulars Warning Against the Use of Alcohol.—Legendre has had plainly worded circulars describing the dangers and ravages of alcoholism, hung around the walls of his service in the hospital, and others are imitating his example. He wishes to have popular lectures on the abuse of alcohol delivered before the inmates of the hospitals, and the plan is on the point of realization.—*Progres Méd.*, Dec. 24, 1898.

Guayaquil Not a Health Resort.—According to the *Semaine Med.*, Guayaquil, Ecuador, has no quarantine service, as it is recognized that the ports from which the ships arrive can not possibly be unhealthier than Guayaquil itself. The European governments have found it impossible to keep consuls there, on account of the ravages of yellow fever, and are compelled to engage acclimated residents to serve in that capacity.

Tropon, the New, Cheap Albuminous Food.—Nearly ten pages in the *Munich Med. Woch.* of January 10 are devoted to a couple of articles describing tests with tropon (vide JOURNAL, xxxi, p. 941), confirming in every respect the value of this cheap, nourishing, tasteless preparation, to add to soups, etc. For arctic expeditions, military campaigns, etc., it is particularly valuable on account of its small bulk. It is able to substitute completely the albumin in other foods; causes no disturbances; can be taken for long periods without aversion, and costs only four marks a kilogram, much cheaper than meat.

Propagation of Bubonic Plague.—We note in Simond's comprehensive study of the plague (*Annales de l'Institut Pasteur*, October, 1898), that the flea is the means by which the plague is transmitted. The germ thrives in the alimentary canal of the flea and is then inoculated into the rat or man the flea alights on. A temperature of 70 degrees C., for several hours, suffices for disinfection, and protective measures against fleas and rats and persons arriving from infected localities, with prophylactive serum injections, he considers would reduce the number of cases to the minimum.

Regulation of the Sale of Thyroid Products.—The necessity of protecting the public by regulating the sale of the thyroid products, and restricting it to physicians' prescriptions, has been simultaneously proclaimed in France, Germany and England. Prof. W. Ebstein denounces the use of these products in obesity, as illogic, unreliable and unnecessary, "the remedy worse than the disease" (*Deutsche Med. Woch.*, January 12). Franck calls attention to the dangers of thyroid treatment when the normal thyroid gland is working properly, liable to produce somnolence, coma and even death from heart failure in persons with cardiac insufficiency. Lancereaux states that he always watches the pulse when administering it, and suspends it when the pulse is over a hundred.—*Bull. de l'Acad. de Méd.*, January 10.

Sewage as Affecting Food.—The trend of opinion seems now to be that if the soil be gorged to repletion with sewage, then the crops will be surcharged with sewage elements, and unfit for food—the meat and milk of animals derived from such crops will also be like the crops, alike unpleasant to the taste and dangerous to the health. These statements are proved by well-known facts; that is, if a cow is fed on turnips, her milk will within twenty-four hours taste like them, the intensity of the flavor being according to the quantity of turnips taken; in the case of hens and their eggs, a like result follows, for, if fed on decaying matter, which they always eat greedily, both their eggs and flesh will be disagreeable and unwholesome eating. Ducks, too, are still more objectionable in these respects.

Intermittency of Meningitis.—In a recent report on the cerebro-spinal meningitis epidemic, lately so marked in Massachusetts, it is officially stated that the whole number of deaths from that disease in that State in nearly twenty years, ending Oct. 1, 1897, was nearly 150 per year. The numbers for the years 1878–1896 were nearly uniform, but in the first nine months of 1897 the number reported was 405, those in Boston alone being 184, and it seems that more than 26 per cent. of this number occurred among young children under one year old. Strange as it may be, after the disease appeared in Geneva in 1805, its next appearance was in Medfield, Mass., and then, shortly after, in other towns in New England, Illinois, New York, New Jersey and Maryland. As a rule, the outbreaks of the disease have been seen as perfectly isolated epidemics in places which had been hitherto free from it, and in almost all cases the epidemics have appeared in the winter and spring.—*N. Y. Tribune.*

Isolation of Tuberculous Patients.—Two hospitals in Paris have set aside a special ward for this purpose, but the deaths still average nearly a third, and the necessity of a supplementary sanatorium outside the city, where the food and fresh air would combine to restore the curable patients to health, is earnestly advocated by Letulle and others. He has succeeded, after much effort, in having the tuberculous patients at the Boucicault supplied with an extra dish at their meals, although this "alimentary debauch" aroused much protest from the finance department at first. He considers that if sufficient reclining-chairs and warm clothing could be supplied, and a sheltered gallery provided, even the hospital tuberculous ward might serve as a semi-sanatorium.—*Presse Méd.*, Dec. 24, 1898.

Water Kefir: A Hygienic Drink for the Army.—Kefir made with milk is the constant beverage of the inhabitants of the Caucasus, and a modified kefir made with water, sugar and kefir grains, produces in six days a sparkling, refreshing drink containing 1.4 grams alcohol, 16 of sugar and 2.10 of carbonic acid to the liter, resembling cider in its appearance, with an acid, slightly wine taste. The expense is less than a sou a liter, and Surgeon-Major Carteret of the French Army has found it a most excellent and popular hygienic, tonic and appetizing drink for the soldiers in his regiment. He observes that the kefir is not a good culture-medium, and is therefore healthier than the water from which it is made. The formula is two liters of water to one liter of kefir grains and fifty grams of brown sugar. Stir in an open pitcher. After three days, stir again, strain and bottle, fastening the corks as for champagne. Drink, after three days in the bottle. The kefir grains can be used again and again, and if well dried can be put away to keep for months.—*Presse Méd.*, January 7.

Insects and the Convection of Contagious Diseases.—P. R. Joly, in a monograph on this subject, quotes instances of malignant pustule, Egyptian ophthalmia, and Delhi boil conveyed by flies. He has also found as the result of careful observations that the legs of flies may be covered by staphylococci and many other forms of bacteria. Tubercle is particularly liable to be disseminated by flies; thus they come in contact with sputa and other means whereby tubercle bacilli discharged from the body of the patient become ingested. The insects then alight on food and deposit the tubercle bacilli, and thus easily contaminate milk, meat, and other substances. The author quotes Yersin as having noticed that the bodies of dead flies collected in his laboratory often contained numbers of the plague bacilli. The influence of various insects, more particularly mosquitoes, in carrying the filaria sanguinis is well known. The mosquito has also been suspected as the agent in the conveyance of malaria, and the writer suggests that the "sleeping sickness" is due to infection carried by insects. Ordinary inflammatory conditions may be produced by the common flea and bug, though the writer has been unable to find that the latter insect carries tuberculous infection, as is stated by some observers. The writer goes on to show the importance of warding off flies as far as possible, especially in cases of the disease mentioned. He suggests a solution of formol as of considerable use for this purpose, and particularly good in cases of phtheiriasis.—*British Med. Jour.*

The Crime of Substitution.—The New York City Board of Health has taken up the subject of drug substitution, a dangerous practice that is believed by that board to have assumed growing proportions. In the recent prevalence of influenza in that city, frequent instances were found where druggists were using commercial acetanilid for phenacetin in prescriptions. The former drug, it is said, can be purchased at fifty cents per pound, while phenacetin is about eighty-five cents per ounce. One of the health officials is reported as finding the legislation against substitution as needing amendment; "the law is wholly inadequate to reach the offenders. The fine for such work can not exceed $50 in each instance, although the fine for adulterating milk is $100. This great evil is felt more by the poor of the city than by anyone else, and they are the ones we are most interested in protecting. I do not mean to reflect on the worthy practitioners who have charge of this class of patients, but rather on the drug clerks, who, in making up prescriptions will stop at nothing to make an extra few cents. Adulteration is not attempted in filling the prescriptions of prominent physicians, for they have their prescriptions put up by reputable druggists, who, in turn, make their purchases from equally reputable chemists. As for the other class of dealers who resort to such practices as I have outlined, I know of no punishment severe enough for such rascals, who are a menace to the lives of the sick. The legislature should pass more stringent laws upon the subject. It is difficult at present to get evidence against the offenders, but once that evidence is obtained the offenders should be heavily punished."

Disposal of Excreta in Cuban Camps.—Surgeon-General Sternberg, in a letter dated Jan. 25, 1899, has invited the attention of the Adjutant-General to certain statements made by Lieut.-Col. O'Reilly, chief surgeon, volunteers, concerning the disposal of excreta at Up Park Camp, the principal military station in the Island of Jamaica. These statements are: "All garbage is removed by contract; is carried a distance of

six miles and burned. The excreta are provided for by the dry earth system. Each barrack has one privy, which is furnished with a number of galvanized-iron buckets, and with dry earth and scoops, so that immediately after defecation a man can cover his excrement with earth. Last year lime was used with the dry earth to advantage. Dry-earth sheds are used to have always a supply of dry earth during the rainy season. A separate place is provided for urination. The receptacle is a wooden tub, which is tarred. These tubs, as well as the buckets in the dry-earth closets, are emptied once in every twenty-four hours, by a contractor, who carries the deposited matters to a point six miles to the leeward of the camp and there buries them." The Surgeon-General fully approves of this method of disposal of excreta when it is impracticable to have a complete system of sewers and water-closets connected with them. He does not, however, approve of Colonel Waring's proposition to use the same earth repeatedly in connection with such earth closets. During his recent visit to Havana he ascertained that neither of these approved methods, nor the method recommended by the board of medical officers, of which Major Walter Reed, surgeon, U. S. A., is president, and which also has his approval, has been carried out in our large camp at Marianao, Cuba. He, therefore again invites attention to this important subject, and recommends that prompt measures be taken to provide for the disposal of excreta at all camps and barracks garrisoned by our troops in Cuba, by one or other of the methods referred to. There is good reason, he says, for believing that yellow fever, as well as typhoid fever, cholera and various intestinal diseases, are propagated through germs contained in the excreta of infected individuals, and the proper disposal of excreta is the most essential factor in the prevention of these diseases. The Adjutant-General took prompt action on this communication, for on the day on which it was written he notified the Surgeon-General that the Secretary of War approved of the expenditure necessary to provide excavators, troughs, etc., for large camps and garrisons. Small commands not supplied with excavators will be required to use the earth-closet system on the lines indicated in the letter of the Surgeon-General of Jan. 25, 1899. The expense of providing the materials for closets and necessary labor for removal of excreta will be borne by the Quartermaster's Department.

England's State of Preparation for a Smallpox Epidemic.—Sir Richard Thorne, the chief medical officer of the English Local Government Board, has prepared a special report for the purpose of showing the receptive condition of the rising generation of his countrymen to epidemic variola. His observations on the increasing percentage of children who escape or evade vaccination are worthy of serious attention. He says that the summary he is able to give of the vaccination officers' returns is concerned with births during the calendar year 1895, the most recent period for which final information, based on repeated local inquiries concerning each child, is procurable. It shows that after deducting from a total of 921,512 births those children who are successfully vaccinated, those who died unvaccinated, those who were registered as "insusceptible" of vaccination, and those who had smallpox before vaccination, there still remained 20.5 per cent. who could not be traced or were otherwise not finally accounted for as regards vaccination. The proportion unaccounted for in the metropolis was 24.9 per cent., that for the rest of England was 19.8, both of which rates show a still further increase and a failure to comply with the provisions of the vaccination acts, which has been steadily growing for some fifteen years. Indeed, if allowance be made for the further falling off in this respect, which is believed to have occurred since 1895, the number of children now born in England and Wales who in one way or another escape vaccination, is probably not much less than one-third of the whole. In this way the country is being prepared for widespread epidemics of smallpox such as have been unknown to the present generation, unless, indeed, the invariable rush and clamor for immediate vaccination on the part of those who have neglected or disclaimed against the operation during times of freedom from smallpox, should be capable of being so far met in the moment of emergency as largely to mitigate the impending disaster. It will be observed from the returns for 1895 that 2962 children were registered as insusceptible of vaccination. In this connection I would point out that the number of consecutive primary vaccinations by the Board's own officers without the occurrence of a single instance of so-called insusceptibility now reaches 107,180."

Health Report of Washington, D. C.—The report of the Committee on Public Health of the Board of Trade was read by the chairman, Dr. W. W. Johnston, at the public meeting held January 13. Dr. Johnston said: The death-rate and total number of deaths during the past year had been less than any year since 1875, when vital statistics had first been compiled in the District. There had been a decided reduction in the number of deaths from typhoid fever during the past year and he traced the result directly to the efforts made to lessen the sources of the disease, through the abolition of surface wells and pumps, the removal of sinks and outhouses, the improvement in drainage of the outlying parts of the city, the diffusion of knowledge among the people concerning the danger of contaminated water and impure milk-supply, and the milk analysis and inspection, now rigidly enforced. Referring to the prevalence of diphtheria and scarlet fever, he said "there were 494 cases of diphtheria among whites, with 67 deaths; and 206 cases among colored, with 64 deaths. There were two and one-third more cases among the whites, with about the same number of deaths as in the colored. He attributed the smaller death-rate among the whites to the fact that antitoxin is used more generally and at an earlier period than among the colored; he attributed the spread of the disease to the overcrowded and less healthful houses of the poor and less intelligent class, and urged the passage of more stringent laws governing contagious diseases and also a large appropriation from Congress to enable the Health Department to disinfect all premises where there have been cases of contagious disease." Referring to the water-supply and filtration, he said that the daily consumption of Potomac water averages 47,288,733 gallons, a per capita supply of 168 gallons for an estimated population of 283,782 and emphasized the fact that each year's experience showed an imperative demand for better purification of water-supply than is secured by the present method of reservoir sedimentation. He pointed out that the Potomac River above Washington, the source of the water-supply, drains an area of about 10,000 square miles and receives annually over 5,000,000 tons of sediment, the washings of that surface area. The river is a sewer for nine cities and towns along its banks which are increasing in population and sewage, all of which pollute the river; typhoid fever is prevalent in these towns and cities, and the policy and absurdity of using the same river as a sewer and drinking water-supply, is apparent. He pointed out the impossibility of self-purification of river water and that the removal of organic matter and disease-producing bacteria is possible only through modern filtration. In substantiation of the above he showed that rapid filtration did not satisfactorily remove germs, but that modern methods or filter-beds, when properly constructed, were highly satisfactory; he showed from statistics that typhoid fever was reduced to a minimum in the large cities where filtration was properly carried on. Munich, with filtered water, has a death-rate from typhoid fever of 3 in 100,000 population; before filtration, it was 210, in the same population; Vienna, had 181 before, 6 after: Berlin 100 before, 5 after; Breslau, 113 before, 9 after; Lawrence, Mass., 43 before, 7 after; Buffalo, with unfiltered water, 29; Washington, D. C., unfiltered, 69 per 100,000. He referred to the failure of Congress to make an appropriation for the maintenance of a chemic laboratory for the Health Department; formerly $250 was appropriated annually for this purpose. At present the Health Officer employs an inspector, who is a chemist, to investigate adulterations of food, foodstuffs, milk, water, butter and drugs, and defrays the expenses out of a small appropriation, known as "contingent fund." He pointed out the necessity of a chemic and bacteriologic laboratory, with a sui

able force, for the purpose of suppressing disease and detecting alterations; he showed, that, notwithstanding the limited funds and force at the command of the Health Officer, adulterated foodstuffs are being driven systematically from the shops. He also pointed out that while over 40,000 pupils yearly attend the public schools in the District of Columbia, no certificate of health or freedom from contagious disease, or of the ability of the child to begin formal school instruction, is required, except the certificate showing previous vaccination. Children are admitted to the schools who are unfit physically and mentally to begin school life, and cases of contagious skin disease, tuberculosis and other diseases, propagated by contact, are not excluded by the present system. To remedy this evil every child applying to enter school should be required to present a certificate from the family physician setting forth physical and mental fitness to begin school life, and freedom from contagious disease. As the State is responsible for the care of the body and mind of the child, such responsiblity demands the appointment of school physicians to examine such certificates and, in doubtful cases, subject the child to further examination. Referring to the prevalence of malaria caused by the pestilential condition of the Anacostia River and flats, he stated that out of 200 patients in one of the many buildings of the Government Insane Asylum, 49.5 per cent. were ill with malaria between March and November of the past year. Of 229 employes at the same institution, 75 were ill from malaria during the same period, and the surgeon in charge states that the insane are made worse in their mental disorders by malaria. Malaria seriously interferes with the education of the children. From February to June of the past year, absences amounting to 4639.5 days were caused by malaria, while 16,221.05 days represented absences on account of all other diseases. 23.3 per cent. of absences being caused by malaria. During a period of 123 days, 25,694 days were lost, an average of loss to each pupil of about 1.05 days. The report of the surgeon, Maj. W. C. Boarden, U. S. A., in charge of the Washington Barracks, shows that from July, 1897, to July, 1899, with an average population of the post of about 400 men, 135 suffered from malaria. Dr. Johnston pointed out that the schools and institutions referred to were all adjacent to the Anacostia River, and the figures show the danger to the health of the city from the prevalence of the present conditions along that water-course. Among other matters of importance to the health of the community, he said, are the proper disposal of sewage and the removal of garbage, ashes and other waste. The plans proposed in this connection by the officials of the District Government, are approved and recommended by the Committeee and the Board of Trade.

Health Reports.—The following cases of smallpox, yellow fever and cholera have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended Jan. 28, 1899:

SMALLPOX—UNITED STATES.

Alabama: Calvert, December 10 to January 20, 10 cases; Clarke County, December 25 to January 1, 2 cases, disease generally prevalent; Mobile, January 20, 5 cases.

Connecticut: New Haven, January 16, 2 cases; origin of the disease, New Durham, N. J.

District of Columbia: Washington, January 21, 1 case; origin, Alexandria, Va.

Florida; Pensacola, January 15, 1 case.

Kansas: Marion County, January 18, 11 cases; origin, Oklahoma.

Missouri: St. Louis, November 1 to January 21, 15 cases, 2 deaths.

Nebraska: Nebraska City, January 9–16, 4 cases, 3 deaths.

New York: Dunkirk, January 7–14, 3 cases; New York, January 7–14, 1 death.

Pennsylvania: Altoona, December 31 to January 25, 1 case; Bedford, December 31 to January 25, 1 case; Brumbaugh, December 31 to January 25, 2 cases; Charlesville, December 31 to January 25, 15 cases; Claysburg, December 31 to January 25, 1 case; Philadelphia, December 31 to January 25, 9 cases.

Virginia: Alexandria, January 20, 1 case; Norfolk, January 16, 90 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, December 24–31, 10 cases, 2 deaths; Pretoria, December 24, epidemic suppressed.

Brazil: Rio de Janeiro, December 3–16, 21 cases, 9 deaths.

France: Paris, December 24–31, 1 death.

India: Calcutta, December 3–10, 1 death.

Mexico: Chihuahua, January 7–14, 1 death; Mexico, December 31 to January 8, 4 deaths; Vera Cruz, January 5–12, 1 death.

Russia: Moscow, December 17–24, 14 cases, 8 deaths; Odessa December 24–31, 1 death; St. Petersburg, December 24–31, 1 case, 1 death; Warsaw, December 17–31, 4 deaths.

Turkey: Bagdad, October 22 to November 27, 96 cases, 20 deaths; Constantinople, December 26 to January 2, 11 deaths; Smyrna, December 18–25, 4 deaths.

YELOW FEVER.

Brazil: Rio de Janeiro, December 3–16, 10 cases, 10 deaths.
Columbia: Barranquilla, December 17–24, 1 case, 1 death.
India: Calcutta, December 3–10, 1 death.
Mexico: Vera Cruz, January 5–12, 4 deaths.

CHOLERA.

India: Calcutta, December 3–10, 6 deaths.

ASSOCIATION NEWS.

Section on Diseases of Children.—It is desired that titles of papers to be read in this Section be sent the secretary, Dr. J. Leland Boogher, St. Louis, Mo., not later than March 30. The program is already quite full, and members are urged to attend to the matter at once. A preliminary program will be mailed early in April.

SOCIETY NEWS.

Jasper County Medical Society.—The semi-annual meeting and banquet of this Society was held January 17, at Newton, Iowa.

Scandinavian Medical Society.—The eleventh anniversary of this Society was celebrated with a banquet and ball at Chicago, January 21. The toast-master was Dr. A. H. Wimermark.

Bay County Medical Society.—At the recent session of this Society, the following officers were elected: President, J. McLurg; vice-president, W. C. Bishop; secretary, Wm. Kerr; treasurer, C. H. Baker.

Toledo (Ohio) Medical Association.—At the annual meeting, January 13, officers were elected as follows: President, Walter H. Snyder; vice-president, W. D. Stewart; recording secretary, Nelson H. Young; treasurer, James H. Duncan.

Hospital Medical Society.—The physicians of Rochester, N. Y., have organized a new society to be known as the Hospital Medical Society. S. W. Little is president, C. A. Greenleaf, secretary.

Alumni Association.—At the annual election of the Alumni Association of the Medico-Chirurgical College, Philadelphia, the following officers were elected: President, Henry Fisher; secretary, George W. Pfromm; treasurer, E. S. Gans.

Des Moines County Medical Society.—This Society recently held a banquet at Burlington, Iowa, at which Dr. H. A. Leipziger presided as toast-master. Special toasts were given by Drs. G. B. Little, Carl Stutsman, Barnes and Campbell.

White County Medical Society.—At the recent meeting, Carmi, Ill., the following officers were elected: W. W. Apple, president; L. C. Burdick and Chas Wakeford, first and second vice-presidents; W. A. Steele, secretary, ex officio treasurer.

Los Angeles (Cal.) County Medical Association.—At the regular meeting of this Association, January 20, the address of the retiring president, Dr. W. W. Miller, was delivered. Dr. Wesley W. Becket addressed the Association on "Typhoid Fever."

Beaver County Medical Association.—This Association, Pittsburg, Pa., has elected as officers: President, J. Burt Armstrong, Beaver; secretary, A. S. Moon, Beaver Falls; treasurer, T. P. Simpson, Beaver Falls.

Somerset County Medical Association.—At a recent meeting of this Association, Johnstown, Pa., these officers were elected: R. E. Pollard, Garrett, president; A. J. Welfley, Confluence, vice-president; H. C. McKinley, Meyersdale, secretary; David Gildner, Rockwood, corresponding secretary; W. S. Mountain, Confluence, treasurer.

Kalamazoo (Mich.) Academy of Medicine.—At the annual meeting and banquet, January 17, Drs. F. G. Novy and J. N. Martin of Ann Arbor, H. O. Walker of Detroit and H. T. Patrick of Chicago, were on the program for papers and gave demonstrations.

Cleveland (Ohio) Medical Society.—Sixty members of this Society met for the annual banquet, January 10. Dr. G. W. Crile was toast master. A. F. House spoke on "Reminiscences;" H. S. Straight, on "Our Aims;" W. A. Knowlton, on "The Ladies;" and Dudley P. Allen on "Professional Ideals."

Dental Society Incorporated.—Articles incorporating the District of Columbia Dental Society have been placed on record. The trustees for the first year are: Drs. R. B. Donaldson, J. B. Teneyck, H. M. Schooley, Henry B. Noble, J. Curtis Smith, Henry C. Thompson and J. Hall Lewis.

Eastern Ohio Medical Association.—This Association met at Steubenville, recently. Dr. Parke of Wellsville discussed "La Grippe"; Drs. B.O. Williams of Bellaire, S. B. McGavaran of Cadiz and Floyd and Elliott of Steubenville gave a history of abdominal sections.

Columbus (Ohio) Academy of Medicine.—At the recent meeting the following officers were elected: C. S. Hamilton, president; Andrew J. Timberman, vice-president; William D. Deuschle, secretary. The retiring president, Dr. Warner, presented a paper on "The Influence of the Columbus Academy of Medicine on Higher Medical Education."

Chicago Society of Internal Medicine.—A joint meeting of the Chicago Society of Internal Medicine and the Chicago Medical Society was held January 25. The program was as follows: Henry M. Lyman, "Acute Articular Rheumatism;" Arthur R. Edwards, "Causation and Symptomatology of Articular Rheumatism"; J. H. Salisbury, "Chemic Theories of the Causation of Acute Rheumatism."

Semi-Centennial of Philadelphia County Medical Society.—This society has celebrated its fiftieth birthday, and, of its present enrollment, only Dr. Alfred still remains of its charter members. The celebration was, therefore, a historic one. There were speeches and well-wishes on every hand. President, Solomon Solis Cohen; first vice-president, John H. Musser; second vice-president, George E. Shoemaker; secretary, Ellwood R. Kirby; assistant secretary, W. S. Wray; treasurer, Collier L. Bower; censor, H. St. Clair Ash.

New Southern Medical Society.—There has recently been organized a society known as the Mississippi Gulf Coast Medical and Surgical Society, composed of the leading physicians of the different coast towns. The principal purpose of the organization is its endeavor to prevent the introduction of contagious and infectious diseases and to aid the State Board of Health in arriving at the correct diagnosis of such diseases, and for the prevention of vicious, retaliatory and useless quarantines. J. K. McLeod, M.D., Moss Point, Miss., is president, and O. L. Bailey, Ocean Springs, Miss., secretary.

Montgomery County Medical Society.—At the meeting January 17, Conshohocken, Pa., the Society elected the following officers: President, D. H. Bergey, Philadelphia; vice-presidents, P. A. Corson, Plymouth, and H. A. Arnold, Ardmore; recording secretary, H. H. Whitcomb, Norristown; corresponding secretary, J. K. Weaver, Norristown; treasurer, S. N. Wiley, Norristown; censors, C. H. Mann, Bridgeport; S. L. Slifer, North Wales, and E. S. Kreibel, Worcester; examiners, S. W. Groff, Harleysville; J. R. Care, Worcester, and S. B. Horning, Evansburg; delegates to the AMERICAN MEDICAL ASSOCIATION, S. L. Slifer, North Wales; H. A. Arnold, Ardmore; G. M. Stiles, Conshohocken; H. H. Whitcomb, J. K. Weaver, J. O. Knipe, Norristown.

Ohio Association of Infirmary Directors.—This Association has just held its annual session at Columbus, Ohio. The president is Richard Shale, Mahoning; the corresponding secretary, M. L. Huss, Sandusky. Among other resolutions was one "that our legislators be requested to make an appropriation to provide suitable buildings in connection with our several State hospitals, so that our county infirmaries can be relieved of their insane and epileptics in accordance with the law passed last winter; also that each member of this Association urge the representatives of their respective counties to this end."

Medical and Chirurgical Faculty.—This organization held a physicians' banquet in Baltimore, Md., recently. Following addresses by Dr. John I. Pennington, the retiring president, and Dr. C. Urban Smith, the newly-elected president, toasts were responded to by Profs. H. H. Beidler and E. Miller Reed, and Drs. Geo. J. Preston, William Lee Howard, Chas. G. Hill, J. D. Blake and Thos. H. Bradshaw. The election of officers resulted as follows: President, C. Urban Smith; vice-presidents, A. K. Bond and M. B. Billingslea; secretary, Eugene Lee Crutchfield; treasurer, Wm. E. Wiegand; executive committee, John I. Pennington, John R. Abercrombie and D. Z. Dunott; committee of honor, Geo. A. Fleming, S. T. Earle and C. H. Dixon.

Cumberland County Medical Society.—This Society convened at Bridgeton, N. J., January 10, with Dr. H. W. Elmer presiding. Papers were read by Drs. E. S. Fogg, on "Stimulation of the Heart," and M. K. Elmer on "The Serum Treatment of Tuberculosis." Both were discussed by different members. This Society celebrated its eightieth anniversary on December 8 last. The following interesting program was given: Prayer, Rev. S. W. Beach; Address of Welcome, W. L. Newell; Response, Prof. W. E. Ashton; Address, Historical, F. M. Bateman; address, "Study of Cardiac Pain," Prof. H. A. Hare; address, "Surgery of the Hepatic Ducts," John B. Deaver; address, "Internal Secretions," David Riesman. A reception was held at Hotel Cumberland, followed by a banquet. After-dinner speeches were made by Prof. H. C. Wood, Drs. W. H. C. Smith, J. Chalmers DaCosta, E. L. B. Godfrey, Charles C. Phillips and Prof. H. A. Hare.

Fourth International Congress of Dermatology and Syphilography.—This Congress is to be held at Paris, at the St. Louis Hospital, Aug. 2 to 9, 1900. By special arrangement with the International Medical Congress, to be held at the same time, the Section for Dermatology and Syphilography will combine with the Congress of Dermatology and Syphilography, and the one fee will admit to both (25 francs). The subjects announced for discussion are: "The Parasitic Origin of Eczema;" "Tuberculides;" "Varieties of Alopecia;" "Leucoplasia;" "Syphilis and Associated Infections;" "Hereditary Syphilis;" "Causes of Generalized Infections in Gonorrhea." Announcements of communications on other subjects must be made before June 1, 1900. Secretary-General, Dr. Georges Thibierge, 7 rue de Surène, Paris.

Washington Obstetrical and Gynecological Society.—The two hundred and ninety-second meeting of this Society was held at the residence of Dr. H. L. E. Johnson. Dr. J. T. Johnson read the essay of the evening, entitled "Operations for Cancer of the Uterus." He referred to the surgical history of cancer of the uterus, citing the statistics of prominent operators. Referring to his individual cases he had operated thirty-two times for this disease, of which number thirty had subsequently died of cancer, by extension of the disease; one was now quite ill from secondary cancer, and in one case the result was doubtful. He was almost prepared to say that operation held out no hope whatever for the cure of this disease, and in advanced stages of the malady he would in the future refuse to operate. Referring to the statistics of others, he said their results almost corresponded with his. He also read a contribution on the

treatment and results in the grave forms of vomiting in pregnancy. An interesting discussion of both subjects followed, participated in by Drs. Balloch, T. C. Smith, Fry, Van Rensselaer, H. L. E. Johnson and W. C. Bowen.

Detroit Medical and Library Association.—At the regular meeting of this society, January 16, Dr. G. H. Sherman read a paper on "The Cause and Prevention of Overcrowding in the Medical Profession. He gave as the primary causes for the overcrowded condition of the medical profession: 1, the unnecessary number of graduates from medical colleges; 2, depressed social conditions; 3, less sickness, due to better sanitary conditions; 4, improved methods of treatment. The Doctor said in part that the medical man must recognize that he belongs to the industrial class; that it is impossible to prevent overcrowding in the medical profession, or any other calling, so long as the great leading industries are overcrowded. He then denounced the present profit system in commerce and industry, claiming that it inevitably pauperizes the masses and establishes a capitalist class. To prevent overcrowding in the profession, he argued, we must make labor more remunerative among those employed outside the medical profession, by getting rid of the profit system. He recommended the substitution of a co-operative system, through the instrumentality of the Government, and thus getting rid of the profit system. "This change," he said, "can be brought about only by abolishing profit in the private ownership of land through the operation of the single tax, or making occupancy and legitimate use the only title to land; to abolish profit in the natural monopolies, such as railroads, telegraph, street railways, etc., by establishing public ownership; to abolish profit in all industries that are in control of trusts and combines by having them operated by the Government at cost, and by the Government giving work to all who seek employment, by establishing governmental co-operative industries." The Doctor appealed to the medical men to do all in their power to establish one great co operative commonwealth.

Against Abuse of Alcoholic Liquors.—This Seventh International Congress will be held in Paris, April 4-9, 1899. The preliminary program gives promise of the widest discussion of this topic ever made at any one gathering, where nearly every phase of alcoholic injury and loss will be treated. The morning sessions will be confined to scientific studies; the afternoon open for educational, moral and sociologic studies of the drink problem. The various questions of the relation of alcohol to the higher university training will be presented. The following are some of the speakers: M. Brisson, professor at the Sorbonne; Dr. Brunon, director of the School of Medicine, Rouen; M. Ruyssen, professor at the Lycee, Rochelle; M. Gilbaut, professor at the Lycee, Toulouse. The temperance cause in the primary schools will also be discussed by leading educators of France, Germany, Switzerland, the Netherlands, and other places. Alcoholism among workmen in the city and country, alcoholism on native races and the means of prevention will be considered. The evenings will be open for the discussion of special topics by leaders and specialists. One will be devoted to the work of societies, the other to the influence of law and legislation, the other to women's work, the other to the crime phases of the question. The President of this Congress, Dr. Legrain, is the medical director of one of the largest insane asylums of France, and an author of eminence on diseases of the brain and nervous system. Other officers include many prominent medical teachers, scientists, and government officials, and distinguished philanthropists. It is proposed to have representatives of every society and organization for temperance in the world, and if possible arouse a new interest in this topic. Twelve great countries of Europe have announced delegates to the meeting, and nearly a hundred leading men have been enrolled to take part. Short papers are solicited from American workers in this field, on any one phase of the subject. Address T. D. Crothers, M.D., Hartford, Conn., American chairman of the organization.

BOOK NOTICES.

A Treatise on Unripe Cataract. By WILLIAM A. MCKEOWN, M.D., M.CH., Surgeon to the Ulster Eye, Ear and Throat Hospital, Belfast; Member of the Royal University of Ireland; Lecturer on Ophthalmology and Otology, Queen's College, Belfast. London: H. K. Lewis, 136 Gower St. W. C., 1898.

Fourteen years ago the author addressed the Ophthalmologic Session of the British Medical Association on the treatment of immature cataracts, showing that they could be safely and successfully removed by the use of intracapsular injections and intraocular irrigations, and that therefore cataracts might be operated upon at a much earlier period than has been customary. If this can be done without any special risk for the patient, it is certainly a decided advancement of ophthalmic surgery and a great boon for those half-blind patients who are compelled patiently to wait in their helplessness often for many months and even years, for the "ripening" of their cataracts.

In this treatise the author now lays before the profession the results of his experience in about 700 cases in which the injections and irrigations have been used, during the past fourteen years. While from the nature of the subject this book may not be of great interest to the general practitioner, it will be read with the greatest interest and much profit by every oculist. Since the days of Von Graefe's classic essay on "Cataract Operations," this treatise is the most valuable contribution to the surgery of cataract.

The Crystalline Lens System. Its Embryology, Anatomy, Physiologic Chemistry, Physiology, Pathology, Diseases, Treatment, Operations and After-changes, with a consideration of Aphakia. By LOUIS STRICKER, M.D. Cincinnati: 1898.

This is one of those books which represent an immense amount of work but find only a very limited field of usefulness. It is an extensive compilation of the vast literature on the crystalline lens, and will be a useful book of reference for the student of medical history and for those engaged in making special investigations concerning the lens system. The author deserves high praise and admiration for the amount of labor he must have spent in the preparation of this work.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D. In twenty volumes; Vol. xvii. Infectious Diseases and Malignant New Growths. New York: William Wood & Co., 1898.

This latest volume of the series of "Twentieth Century Practice" covers only a few subjects, but these are important ones. Diphtheria is treated of as to its general pathology and bacteriology, by William Hallock Parker, M.D., of New York, and, as regards its symptomatology and treatment, by Abraham Jacobi, M.D., than whom there could be no better authority, either in this country or elsewhere, on the subject. Both these papers appear to be judicious and satisfactory discussions, and to thoroughly cover the known facts as to the pathology, diagnosis and treatment of this most unfortunate disease.

The article on tetanus is by Babes of Bucharest, who follows Rose closely in his clinical description, adding, quite freely, the more recently acquired bacteriologic and other data. One or two statements here made seem worth noting; in his remarks on diagnosis, and elsewhere, the author lays special stress on the symmetric involvement of the muscles in tetanic trismus, apparently ignoring the fact that reliable observations of tetanus in which the incipient trismus was unilateral have been reported. Another is the view he holds that mild cases of true tetanus often pass on to recovery unrecognized as such. Such a fact is encouraging, inasmuch as it indicates that the infection is not so fatal as has been generally held, and this, therefore, materially modifies the general prognosis of the disease.

The remaining articles by Williams (W. R.), Coley, Bowen, and McGuire, on malignant neoplasms, cancer, sarcoma, etc.,

are also apparently thorough and up-to-date. The volume is a worthy member of a valuable series.

Self and Sex Series. WHAT A YOUNG WOMAN OUGHT TO KNOW. By Mrs. MARY WOOD ALLEN, M.D., and SYLVANUS STALL, D.D. Philadelphia: Vir Publishing Co. 1898. $1.

This little work is evidently written with the best intentions, and contains a large amount of sensible advice. It has the merit also of treating some delicate subjects judiciously and of omitting or rapidly passing over others that, when discussed, are as likely to do harm as good. One or two of the authorities quoted have hardly the scientific weight that is here given them, but that is not a very serious defect. While it is probably true that works of this kind are best addressed to parents and teachers who can communicate to the young the information needed, the present volume is a rather wholesome one, and may be of service to some members of the class for which it is written.

NECROLOGY.

JACOB C. DENISE, M.D., Omaha, Neb., died January 20, aged 71 years. His medical studies were pursued at Dayton, O., at the Ohio Medical College at Cincinnati and at the Jefferson Medical College in Philadelphia, from which he was graduated in 1855. At the commencement of the Civil War he was appointed assistant-surgeon of the Twenty-seventh Ohio volunteers. In 1863 he was appointed surgeon of the same regiment. He was mustered out in 1864 at his own request, and returning to his home in Ohio, took a contract as acting assistant-surgeon of the United States army and was assigned as executive officer at the hospital at Columbus, Ohio. In 1865 he was transferred to the general hospital near Cincinnati, where he remained until the close of the year, when he was appointed by the governor of Ohio as surgeon of the Soldier's Home at Columbus. He remained at that institution until 1867, when he went to Omaha and began the practice of his profession. In 1869 he was appointed by President Grant receiver of the land office at Grand Island, and served in that capacity until 1872. He was for many years physician for the State Deaf and Dumb Institute, and was the city and county physician from 1868 to 1871. He was later examining pension surgeon and secretary of the Board of the United States examining surgeons. Dr. Denise was one of the original members of the Nebraska State Medical Society and its first secretary. He was also one of the organizers of the Nebraska School of Medicine, and subsequently of the Omaha Medical College, and chairman of the faculty of the College.

JUDSON CLARK SMITH, M.D., University of Vermont, 1888, of New York City, died there January 28, two days after an operation for appendicitis.

CHARLES H. RICHARDS, M.D., University of Pennsylvania, 1851, of Georgetown, Del., died January 10. He was born Nov. 22, 1827.

CHARLES FAYETTE TAYLOR, M.D., Burlington, Vt., 1856, of New York City, died in Los Angeles, Cal., January 25, in his 72d year. He was a member of several orthopedic societies and was an authority in his specialty, to which he had sustained somewhat the relation of a pioneer.

WILLIAM J. LYTLE, M.D., N. Y. University, 1848, of Princeton, N. J., died January 22, in his 76th year.

WILLIAM WOOD, M.D., Medical School of Maine, Bowdoin College, 1832, of Portland, Me., died there January 22, aged 89 years. He was at one time one of the teaching faculty of his college, and as a medical adviser of several prominent citizens had much of a national reputation.

D. D. SPEAR, M.D., Portland, Me., died January 21, aged 59 years. In 1864 he entered the Maine Medical School and later the Berkshire Medical College in Pittsfield, Mass. He practiced first in Kennebunk and from 1873 to 1897 in Freeport, removing to Portland in the latter year. He was a poet of some note.

THOMAS W. SHAW, M.D., Pittsburg, Pa., died January 18, aged 73 years. He was graduated from the medical department of the University of Pennsylvania in 1848 and the same year commenced the practice of medicine on Penn Avenue, where he has been located ever since. He served during the Civil War as a surgeon, although not regularly enlisted in the volunteer service. He was connected with field hospital at the battles of Shiloh and Gettysburg, as well as a number of other notable engagements.

JOHN BRAHAN READ, M.D., died at Tuscaloosa, Ala., January 20, aged 80 years. He is said to be the oldest alumnus of the University of Alabama, having graduated in 1834, and was the inventor of the iron shell so successfully used in the Parrott gun during the Civil War.

C. M. MCDONALD, M.D., Princeton, Ind., hospital steward Second Division Second Army Corps, died at Greenfield, N. C., January 23, of heart disease, aged 28 years. Last spring he enlisted in Company K, One Hundred and Fifty-ninth Indiana Volunteers. At Camp Alger he was appointed hospital steward and was placed in charge of the measles ward. From Camp Alger he was sent South with the hospital corps.

ROBERT S. MCCOMBS, M.D., a trustee of Dickinson College and a member of the County Medical Society, died this week in Philadelphia, Pa. Dr. McCombs was born Nov. 23, 1848, and was graduated from the Department of Medicine, University of Pennsylvania, in 1868. For a while he practiced in Carbon County. In 1855 he received the degree of Doctor of Philosophy from the University of Pennsylvania. He is survived by a widow and son.

JOSEPH BALDWIN, M.D., Austin, Texas, January 13, aged 72 years . . . William M. Catto, M.D., Decatur, Ill., January 26, aged 41 years . . . A. H. Crawford, M.D., Buffalo, N. Y., January 20, aged 58 years . . . Henry M. Fisher, M.D., Akron, Ohio, January 21, aged 57 years . . . B. R. Johnson, M.D., Gowanda, N. Y., January 21. . . . H. Kirby, M.D., Canton, Ohio, January 20, aged 56 years . . . Samuel B. Lynch, M.D., Boston, Mass., January 14, aged 38 years . . . G. W. Murray, M.D., Alvaton, Ky., January 20 . . . Leonard W. Peabody, M.D., January 13, aged 82 years . . . T. J. Primer, M.D., Athens, Ill., January 15, aged 77 years . . . J. M. Riffe, M.D., Covington, Ky., January 21, aged 75 years . . . I. L. Sanderson, M.D., Sturgis, S. D., January 17 . . . A. W. Weismann, M.D., Keokuk, Iowa, January 15, aged 66 years . . . R. J. Johnston, M.D., of Craig, Mo., committed suicide January 24, by taking strychnin. . . . G. W. Bronaugh, M.D., Stanford, Ky., January, 16, aged 79 years.

MISCELLANY.

Dr. John Van Duyn.—At the annual meeting of the Syracuse (N. Y.) Academy of Medicine, January 20, Dr. John Van Duyn was chosen president of the Academy.

Dr. Thaddeus H. Walker.—Dr. Thaddeus H. Walker of Detroit, assistant surgeon in the United States Army, one of the contract surgeons, has resigned from the Army.

Dr. Arthur R. Perry.—Dr. Arthur R. Perry of Somerville, Mass., has recently been elected city physician to succeed Dr. Wm. F. Holmes.

An Evidence of Colonial Expansion.—New Zealand has twenty-two establishments for freezing meats for European markets. They can handle 4,000,000 sheep a year.

Tuberculosis of Mammary Gland.—The item on this subject in the JOURNAL, January 28, p. 201, should also have given credit to Dr. A. E. Halstead, Chicago, who in conjunction with Dr. LeCount prepared the original paper from which our abstract was made.

Casualties of the Spanish War.—As officially reported to the House Committee on Invalid Pensions, there were: Officers killed, 26; enlisted men killed, 257; officers wounded, 113; enlisted men wounded, 1487. Deaths from disease, May 1 to December 31, officers 111, men 4854.

The Point of Least Resistance.—In New York City, as a sop for the increased rate of taxation, the controller has cut off several alleged charitable societies from the list of organizations aided by the public funds. Outside of New York reforms are believed to be very gradual.

Population and Death-rate of New York City.—A recent weekly report of the N. Y. Health Board estimating the city's population at 3,550,053 gives out the following: in Manhattan Burough the death-rate is 22.70; the Bronx, 26.48; Brooklyn, 21.06; Queens, 24.12; Richmond 22.50.

New York and Quarantine.—According to recent press dispatches, thirty-four members of the House of Representatives, from New York State, have united to fight the bill which seeks to take charge of the quarantine service in New York harbor, taking it away from the State authorities and placing it in the National Marine-Hospital Service.

An International Pharmacopeia.—The Royal Academy of Medicine of Belgium has appointed a committee to consult with the government in regard to the necessary steps to be taken to induce foreign governments to agree and undertake the compilation of an international pharmacopia. Our Italian exchanges express the hope that Belgium's initiative will meet with the support of other nations, and the dream of international congresses find realization at last.

Mistakes in Sales of Poison.—A bill lately introduced before the New York State Legislature, endeavors to prevent these errors. It provides that only duly licensed pharmacists, and not drug clerks, are to make the sales. Another bill has also been introduced providing for the appointment of a State board of pharmacy of nine members, two from Erie, three from New York, and four from the State at large, to grant licenses and regulate pharmacy.

America as a Candy Consumer.—The Executive Committee of the American Confectioners' Association states that about $100,000,000 capital is invested in the manufacture of candy, and that Americans spend more on sweets than on beer, wines and liquors combined. The association claims that poisonous candy has practically disappeared from the market and further aims to instruct the manufacturer regarding the nature of every chemic or coloring material likely to be used.

Hospital Appointments.—Drs. T. L. Savin, A. L. Bossyns and J. Frank Crouch have been appointed additional assistant physicians in the Presbyterian Eye, Ear and Throat Charity Hospital, Baltimore. Drs. J. F. Jones, Charles G. Buck, H. Hardcastle, J. L. Spruill, R. H. Johnston and C. H. Teenken have been added to the medical staff and Dr. G. P. Crawford to succeed Dr. T. L. Savin as resident physician.

The Blind in Russia.—Of 302,000 totally blind persons in Europe, not less than 192,000 are in Russia, or a proportion of 1 to 500 of the population. France, England, Germany, Italy and Spain have a better showing, that of a little less than 1 out of every 1000. The Russian statisticians, and in this case competent physicians, attribute this plight of the inhabitants to the bad hygienic state of peasant life, to the intense cold and to the glare of the sun on the snow. To these causes might possibiy be added the minute foreign bodies carried by high winds.

"Annals of Ophthalmology."—Dr. H. V. Würdemann of Milwaukee, who has been associate editor of the *Annals of Ophthalmology*, in charge of the department of German literature, has accepted the position of editor-in-chief, vice Dr. Casey A. Wood of Chicago, resigned. Dr. Wood will retain an interest in the *Annals* and remain in charge of the department of Italian literature. The staff of the *Annals* will shortly be enlarged by the appointment of six collaborators, and abstracts of Dutch, Russian, Scandinavian, Polish and Grecian literature will hereafter be included. With these, the abstract departments of the journal will cover the ophthalmic literature of all the world.

Money for the Army Medical Department.—The urgent deficiency bill, approved Jan. 5, 1899, for the last six months of the fiscal year ending June 30, 1899, makes the following provisions for the Medical Department of the Army: For the purchase of medical and hospital supplies, including disinfectants for general and post sanitation, expenses of medical supply depots, pay of employes, including civilian nurses, medical care and treatment of officers and enlisted men of the regular and volunteer armies on duties at posts and stations, for which no other provision is made, for the proper care and treatment of cases in the armies suffering from contagious or epidemic diseases, $2,300,000. The posts and stations for which no other provision is made evidently include the many civil hospitals which threw open their doors for the care of sick and wounded soldiers during the past summer and autumn.

A Board on Emergency Rations for the Army.—The Secretary of War has appointed Col. Charles A. Woodruff, assistant commissary-general of subsistence, Lieut.-Col. Charles Smart, deputy surgeon general, and Major Louis A. Craig, assistant adjutant-general, U. S. V., a board to assemble in New York city on February 15 next, to examine, test and report upon the various emergency rations, as to their adaptability for use in the Army, and to compare the present authorized emergency ration with those that may be submitted for consideration. The Board is authorized, on application, to make a practical test of the various rations with U. S. troops to be designated when the Board is ready to make the practical tests. Commenting on this order, the *Army and Navy Journal* says that it is not only the composition of the ration that is important, but the mode of putting it up. Americans are much given to packing in tins, but this cover offers no facility for dividing a ration. If the soldier does not eat the whole he not only has the same bulk to carry, but the contact of meat and tin in the open air is not free from danger to health. If the fragments are thrown away, a tin to a soldier, the quantity of camp refuse is increased enormously. The German sausage has not found favor in our army, but there is no doubt that its form gives the soldier a chance to take what he wants without spoiling the rest, and makes the least amount of refuse to be taken care of.

Effects of the Arc on Eyes.—The report of Tracinski, in the *Zeitschrift für Beleuchtungswesen* (April 30), gives the result of investigations in connection with the operation of the Zerener arc welding process, which is now coming into use quite largely. The operator wears a pair of spectacles of dark, smoked glass, besides which he looks through a pane of deep red glass, which is connected with the apparatus. The action of the light is sufficiently reduced by this means, says *The Progressive Age*. He tried using the red glass alone, but it affected his eyes for some time after. The workmen who are using this apparatus at first experience pain in the eyes at night, but later on this disappeared; the sight, however, was not affected. He concludes that no permanent ill effects are produced if proper precautions are taken, and if the operator becames gradually accustomed to the work. It is a mistake to have a new operator work a whole day with the arc, as he should begin with a few hours a day until the eyes have been accustomed to it. Only those who have healthy normal eyes should attempt this work.—*Scientific American.*

Blindness Among Spaniards.—In a recent communication to the Berlin Ophthalmological Society, Hirschberg stated that the large number of blind beggars seen by him in traveling

through Spain some years ago led him to investigate the subject. The only official statistics which he could find—those of the government census of 1860—gave the proportion of blind persons as only 11 per 10,000 of the population, a figure which appeared incredibly low in view of the numbers of blind persons seen in the streets and other public places. Further investigation showed that ever since the beginning of the present century travelers in Spain have noticed the large number of blind persons to be seen in that country. The official statistics have, in fact, been so carelessly collected that they are of no value. Diseases of the eye have for a long time been spreading to an alarming extent in the Peninsula. Hirschberg says that he has never seen such marked phthisis bulbi, or so many cases of it, as he usually met with in Spain. Even among well dressed people it is, according to him, quite common to see individuals who have lost an eye, and persons of well-to-do classes who have lost both eyes are by no means rare. At the Congress of Hygiene (vide JOURNAL, xxxi, p. 186), held at Madrid in the spring, Hirschberg uttered a grave note of warning as to the prevalence of such preventable diseases as purulent ophthalmia neonatorum and trachoma, and urged in the interest of the Spanish people, as well as their neighbors, that the medical profession of Spain should pay more general attention to diseases of the eyes.—*British Medical Journal.*

Cicatricial Stenosis Simulating Carcinoma.—Larned (*Phil. Med. Jour.*, Dec. 3, 1898) has a paper on "Cicatricial Stenosis of the Common and Pancreatic Ducts, Simulating Carcinoma," and from the case studied concludes: 1. Differentiation between pancreatic carcinoma and stricture of the pancreatic duct is difficult, and only possible after a careful study of the history and symptomatology, with the aid of laboratory researches, and in certain favorable cases after exploratory celiotomy. 2. Glycosuria is not a symptom of pancreatic disease. 3. Ptyalism will almost invariably be found in cases of pancreatic disease, and, in the absence of its well-known causes, the presence of this symptom should cause us to inquire carefully into the condition of the pancreas. 4. Active surgical interference for relief of the strictures is only of benefit in a limited number of cases when the adhesions are comparatively recent and few and must be limited to measures affording an outlet for the retained secretions. 5. Surgical treatment of the pancreas itself in such cases is unnecessary, as it has been shown by various writers, particularly Senn, that: *a*. in obstruction of the pancreatic duct the secretion is removed by absorption; *b*, that atrophy of the gland from the nutritive or degenerative changes is not incompatible with health, and *c*, that complete obstruction of the duct is seldom followed by the formation of a cyst that might necessitate the formation of a pancreatic fistula. 6. The prognosis is invariably bad.

Dentists and Pharmacists in the Army.—The reorganization of the Medical Department of the Army, now under consideration by Congress as a part of the Army bill, involving as it does a considerable increase in the membership of the department, is creating a flurry of interest not only among the younger members of the profession who hope to fill the vacancies but among those allies of the profession, the dentists and the pharmacists. The Hull bill (H. R. 11022), which went to the Committee on Military Affairs, calling for an increase of 309 medical officers, was returned to the Committee of the Whole House with an amendment providing for 100 dentists, with rank, pay and allowances of a first lieutenant, mounted, who shall be graduates of a dental college and shall pass a satisfactory professional examination. It is extremely doubtful whether Congress, which has heretofore been slow to add to the military establishment, will consider it needful to make such elaborate provision for preserving the teeth of the U. S. soldier as is contemplated by the friends of the dental colleges. It might be claimed that the teeth of the soldier were of more importance from the military point of view a generation or two ago, when he had to bite off the end of a tough paper cartridge prior to driving it home from the muzzle of his firelock, than in these days of metallic cases and breech-loading mechanism; but the Spanish-American war has developed as among the imperative needs of the soldier so many things which the veterans of former wars looked upon as unnecessary or impossible that we would not be surprised if a good many Congressional votes were cast in favor of the amendment. The pharmacists, however, do not appear to have been so prompt in their effort to secure a position in the reorganized Medical Department, for their amendment to the Hull bill has yet to be offered. That bill originally provided for one hundred pharmacists with the status and pay of acting hospital stewards, but this seems to be very far indeed from satisfying those interested in the subject, for, according to the *American Druggist*, it is proposed to organize within the medical department of the Army a corps of skilled pharmacists of high scientific attainments, investing them with commissioned rank and placing them in charge of the Medical Supply Service of the Army; and this is to be accomplished by omitting the hundred pharcists of the Hull bill and providing instead for a pharmaceutic corps, consisting of one Pharmacist-General with the rank of colonel, four Assistant Pharmacists-General with the rank of lieutenant-colonel, thirty-four corps pharmacists with the rank of major, ten division pharmacists with the rank of captain, twenty-five post pharmacists with the rank of first lieutenant, and twelve staff pharmacists with the rank of second lieutenant. The whole of this proposition is based on a misunderstanding of the status of the medical supply officer and of the duties devolving upon him. As illustrating the need for pharmacists of high scientific attainments, the *American Druggist* cites the work of the medical supply officer at New York during the Civil War. That officer expended during the years of the war, in purchasing medical supplies and paying for the services of contract surgeons and nurses, etc., the very large sum of $18,086,569.31. This he did without a flaw in his accounts and to the satisfaction of the Surgeon General and Secretary of War, and that he did so illustrates the efficiency of the present system rather than the need of educated pharmacists in discharging these duties, for Dr. Satterlee, who then acted as medical purveyor in New York, was a major and surgeon of the Army, specially assigned to the charge of the purveying depot. Purchases are made from wholesale manufacturers, and in making these the services of highly educated pharmacists are not required. The question whether medicines are pure or of standard strength is determined by an expert chemist attached to the surgeon-general's office, in Washington, to whom samples are submitted by the contractors. Besides making purchases of medical supplies, the supply officers of the medical department are disbursing officers, who pay all bills incurred by the department; and pharmacists from civil life, however highly trained in their specialty, would find that their knowledge would be of small practical value in the discharge of the duties devolving upon them as supply officers when compared with that training and knowledge of army methods which is gained by years of service in the ranks of the medical department. The stewards and acting hospital stewards of the hospital corps have, as a rule, all the pharmaceutic knowledge necessary for the management of the army dispensary. They attain their position only after competitive examination, and pharmacy is one of the subjects of their study while in the company of instruction and one of the subjects of the examination which is to determine their subsequent status. It is doubtful, therefore, whether the efforts of the pharmacists to substitute a corps of high ranking officers for the unpretentious provisions of the Hull bill will meet with success.

Report of Lieut.-Colonel O'Reilly.—The following extracts are taken from the report of Lieut.-Col. R. M. O'Reilly, chief surgeon, Department of Cuba, relating to his visit to Jamaica, under orders from the War Department:

The Governor received us very courteously and at once placed

us in communication with the commander of the forces in the Island of Jamaica, Major-General Hallowes, who introduced us to his staff, the officers of the garrison at Up Park Camp, and the officers of the various supply departments, medical and otherwise. We were also presented to the commandant of the naval station at Port Royal, Commodore Henderson, R.N. All these officers were most willing to furnish us any information, and to do everything in their power to facilitate the object of our visit. Practically, a certain amount of delay was caused by our arrival during the holiday season, and by the fact that office hours in Jamaica are from 10 A.M. to 1 P.M., and beyond these hours it was not considered proper to trespass on the time of the officers from whom we were securing information.

Although the climate of Jamaica varies greatly with altitude and topographic situation, it is in general pleasant, healthful and salubrious, the cold northern winds which affect Cuba being hardly felt, and the temperature, therefore, being much more uniform throughout the year. The low seacoasts are the warmest portions, the larger part of the habitable island, at altitudes of from one to three thousand feet, being decidedly cooler. The southern coast, at the foot of the Blue Mountain range, is warm and arid, much like the Santiago coast of Cuba. As one ascends the slopes the precipitation increases and the temperature falls rapidly, until, in the higher portions, the climate is wet and cool. The mean temperature at the coast is 78.2; at 2000 feet, 73; at 5000 feet, 62.6; at 5500 feet, 60; at 7400 feet, 55.7 degrees F. At Kingston, one of the hottest and driest places on the island, the highest temperature during ten years was 89.7, and the minimum 70.7, showing a range of only 19 degrees. The climate of the plateau region is especially pleasant, the temperature in St. Elizabeth, for instance, having an annual variation of only 9 degrees, fluctuating between a minimum of 67 and a maximum of 75. The rainfall at Kingston is only 44 inches, while on the north side of the Island it is 88, even reaching 100 inches.

Before entering upon the discussion of the conditions found to exist in the Island of Jamaica at present, it will be instructive to take a glance into its past, and see how well it has earned for itself the title of "Graveyard of the English." The 79th Regiment arrived in July, 1799, 1000 strong, and were quartered at Kingston. During four years they lost 910 men, and 200 were discharged or invalided. The 60th Regiment landed 387 strong in February, 1780. Two-fifths (155) died during the year. A detachment of 200 men were sent upon an expedition to Fort St. Juan, of whom few or none ever returned. The 88th Regiment arrived in March, 1780. During two years they had lost 550 out of 791 men. They were stationed at Rock Fort and Castile Fort. The 85th, 92d, 93d and 94th Regiments arrived in July and August, 1780, and lost heavily, owing to having neither barrack nor hospital accommodations. The sick varied from one-half to two-ninths of the entire force. The 93d lost one-half of their number during the first six months, and of the remainder only 73 were then fit for duty. Only one-seventh of the 94th Regiment remained fit for duty at the end of two years and four months. Of the four regiments, more than two-fifths of the number landed died during the first six months.

During three and one-half years (1779 to 1782) the average number of sick equaled one third of the entire force, and 3500 men died in less than four years, terminating December, 1782.

Still later, from 1803 to 1816, the average annual mortality per 1000 was 157. Vital statistics had not been framed in those early days, and it is impossible to tell what the cause of this heavy mortality was; we can only hazard a guess. It was not until 1817 that any practical attempt was made at a systematic compilation of disease statistics as far as the West Indies is concerned. During the period 1817 to 1836 the average strength, admissions, deaths and ratio per 1000 per annum were as follows: Period 1817 to 1836, average strength, Europeans 2578, natives 286; average admissions, Europeans 4672, natives 92; average deaths, Europeans 313, natives 9; ratio per 1000, admissions, Europeans 1812.26, natives 321.68; deaths per 1000, Europeans 121.3, natives 31.47.

During the healthiest year the mortality amongst Europeans was four to five times greater than in England, and in the unhealthy years was sixteen times as great.

"As to the cause or causes of the heavy sickness described in the foregoing remarks," says Maunsell, "elevated temperature, not being acclimatized, rainfall and temperature combined, absence of trade-winds at certain seasons, geologic formations, the vicinity of marshes and swamps, were all laid under contribution. It was not for many years after the period under review that the true causes became apparent, none of which had been much thought of in those days when sanitation was unknown. 1. Overcrowding. It is stated that at Tobago, in the barracks, which were the best in the whole command, the men had only 250 cubic feet per man of air space; that each man had a space of only 22 to 23 inches in breadth, and that they slept in hammocks packed as closely as possible. 2. They wore European clothing, thick and tight-fitting, unsuitable to the climate. 3. The night soil, instead of being removed, was collected in large cesspits about the barracks, and these were seldom emptied. Neglect of surface conservancy. 4. No doubt the bad water was also a factor in producing disease. 5. Defective ventilation, and 6, general want of attention to personal hygiene." Yet as early as the year 1788, Dr. Hunter, in his work on "Army Diseases," had made the following very sound observations; "It is further to be remarked that those who are just arrived from cool and healthy climates are particularly subject to fevers, as is daily experienced by all new comers. A regiment always loses a greater proportion of men the first year than afterward, supposing their fitness to be the same. The troops to be sent should consist of well-disciplined and not new-raised men, for the latter being less orderly, and not accustomed to the life of a soldier, suffer greatly more from the climate than men habituated to discipline, as was observable in all the young regiments sent to that part of the world. Besides, it is almost impracticable to discipline men in a country in which they have so many difficulties to encounter, and where the great heat renders it impossible to exercise them in the open air, except for a short time in the morning or evening."

The following statistics show the gradual improvement which has gone on step by step, through giving the European troops sufficient barrack-room accommodation, by attention to general sanitary requirements indispensable to this climate, and by perseverance in the principle of locating them permanently in the hills:

1817 to 1836. Average strength 2578. Total admissions from all diseases, 93,455; average annual admissions, 4673; total deaths, 6254; average annual deaths, 313; ratio per 1000, admissions, 1812.55; ratio per 1000, deaths, 121.3. Total admissions from fevers, 46,922; average annual admissions, 2346; total deaths, 5253; average annual deaths, 262; ratio per 1000, admissions, 910.08; ratio per 1000, deaths, 101.9.

1838 to 1847. Average strength 1538. Total admissions from all diseases, 14,086; average annual admissions, 2348; total deaths, 973; average annual deaths, 97; ratio per 1000, admissions, 1526.66; ratio per 1000, deaths, 63.07. Total admissions from fevers, 6562; average annual admissions, 620; total deaths, 615; average annual deaths, 61; ratio per 1000, admissions, 334.16; ratio per 1000, deaths, 39.66. (N. B.—No record of admissions for 1842 and 1845.)

1848 to 1859. Average strength 734. Total admissions from all diseases, 10,058; average annual admissions, 838; total deaths, 267; average annual deaths, 24; ratio per 1000, admissions, 1141.69; ratio per 1000, deaths, 32.70. Total admissions from fever, 1084; average annual admissions, 153; total deaths, 141; average annual deaths, 14; ratio per 1000, admissions, 208.45; ratio per 1000, deaths, 19.08. (N. B.—No record of admissions and deaths for 1851 and no record of deaths for 1858.)

1860 to 1869. Average strength 706. Total admissions from all diseases, 6670; average annual admissions, 667; total deaths, 151; average annual deaths, 13; ratio per 1000, admissions, 994.76; ratio per 1000, deaths, 21.25. Average annual deaths from fevers, 8; ratio per 1000, deaths, 11.34.

1870 to 1879. All diseases. Average strength, 354; average annual deaths, 5; ratio per 1000, deaths, 13.77.

1880 to 1889. All diseases. Average strength, 390; average annual deaths, 4; ratio per 1000, deaths, 11.36. Fevers, average annual deaths, 1; ratio per 1000, deaths, 4.30.

The measures which led to the improvement of the previously existing conditions may be briefly stated under the following heads: 1. Where practicable, troops are now landed in November, and owing to the introduction of steam navigation and the careful manner in which provisions are made for the comfortable, safe and healthful transportation of the troops, they are landed in the island in good condition. There is now no trouble with scurvy among transported troops, as was the case in former years, when transportation was slower and the men were practically dependent upon salted meats while on shipboard. 2. The white troops, with the exception of the small garrison at Port Royal, are at once sent to Newcastle, at an elevation of 4000 feet above the sea-level, where all proper sanitary precautions are taken. 3. The stations which were known to be unhealthy have been abandoned, or their sanitation has been improved to such an extent that they are considered fairly safe except under unusual circumstances. The only two posts on the low lands now occupied are Port Royal and Up Park Camp. 4. The introduction of the canteen, from which the men can now procure beer, which they drink in preference to spirits. The testimony of the officers is that

the canteen is largely instrumental in the disuse of spiritous liquors. 5. Furthermore the men are properly clad, with clothing that is loose, comfortable and adapted to the climate. The European troops wear khakie clothing, with flannel next to the skin. All troops wear cork helmets, which afford the best protection against the tropic sun. The non-Europeans wear a species of Zouave uniform, the trousers of which are usually high in the waist and so afford protection to the abdomen. 6. The sanitation of Kingston and the island generally. . . . The removal of underbrush; the construction of proper surface drainage; abundant supply of wholesome water; the introduction of the earth-closet system; the prompt removal and destruction of garbage in all the garrisons; liberal ventilation, raising dormitories above the ground level and cementing the ground under habitations; providing amusements within the post for the men; using, as far as possible, native, acclimated troops; doing all excavations, etc., by contract.

Up Park Camp, the principal station on the island, is situated about three miles from Kingston, at an elevation of about two hundred feet above the sea-level. The barracks are in three parallel ranges. Some of the buildings have the lower floors resting immediately upon the ground, while others are raised on high arches. The result has been that fever generally originated in the basement floors, and the most fatal cases have been taken from these rooms, especially after heavy rains. Two of the blocks of barrack buildings are raised above the ground on pillars, and it is said that this was done for purposes of architectural design and not for any principle of sanitation. At first the spaces under the raised buildings were used for storage purposes, not only preventing the necessary circulation of air but in themselves generating unwholesome effluvia; from the lower room of the blocks which were not raised above the ground the most serious forms of fever were admitted to the sick list. The principle had not then been mastered which is now recognized, viz., that for health it is a *sine qua non* in this climate that dwelling rooms should be raised above the ground so as to admit the free passage of fresh air, and that the ground should be hermetically sealed by concrete against the passage upward of unwholesome ground effluvia.

All garbage is removed by contract; it is carried to a distance of six miles and burned. The excreta are provided for by the dry-earth system. Each barrack has one privy, which is furnished with a number of galvanized iron buckets, and with dry earth and scoops, so that immediately after defecation a man can cover his excrement with this earth. Last year lime was used with the dry earth to advantage. Dry-earth sheds are used, to have always a supply of dry earth during the rainy season A separate place is provided for urination. The receptacle is a wooden tub, which is tarred. These tubs, as well as the buckets in the dry-earth closets, are emptied once in every twenty-four hours by a contractor, who carries the deposited matters to a point six miles to leeward of the camp and there buries them.

The officers, as well as the men, of the European troops in the West Indies wear the khakie uniform. The opinion of the officers is that khakie is the proper kind of clothing, on account of its cheapness, because it can be easily and cheaply washed, and that by wearing flannels with the material the health is preserved in any climate. Woolen shirts are always worn with the khakie as well as with the blue woolen serge uniforms. The British officers who have seen service in India, Africa and the West Indies, claim that khakie is the best service uniform, but they also say that every man is required to wear the woolen shirt next to the skin. Undershirts are not issued. Practically no attention is given to the cholera band, except during the sickly seasons, and even then the matter is in the hands of the non-commissioned officers.

Conclusions and recommendations.—1. The troops for service in Cuba should, as far as possible, be recruited in the Southern States, and a large proportion of these troops should be colored, with white officers. They should be thoroughly protected against smallpox before embarking for the island. 2. They should be sent there very shortly after the close of the rainy season, say at some time in November. 3. They should be quartered in barracks, the dormitories of which are raised above the ground, the ground underneath cemented, and most liberal ventilation afforded. All underbrush within practicable distance should be removed. The earth closet system should be used in preference to cesspools, and the excreta removed by contract. The kitchen should be detached and protected against. Mosquito bars should be furnished. Abundant water-supply should be provided, and all drinking water should be filtered or boiled. Each man should be allowed a minimum of 76 feet superficial and 600 cubic feet of air-space. Bathing facilities should be provided and their use made compulsory. Drainage should be carefully provided for. Amusements, games and athletic sports should be provided for the men. 4. Clothing. Although there are objections to the khakie, the testimony is generally favorable to its use, and it is therefore recommended, but the blue flannel drawers should always be worn. Light cork helmets, made so as to shade the back of the neck, should be issued. Waterproof overcoats should be provided in limited numbers for use of the necessary guard and orderlies during the rainy season. The other articles of clothing fulfill the requirements. 5. No improvement on the present ration can be suggested. If it errs at all it errs on the side of too great liberality. So far as possible the troops should be saved from all exposure at night and in the early morning, and no one should be called on for any duty at night or early in the morning without being given at least a cup of coffee. 6. Rigid discipline should be enforced, communication with the towns should be reduced to the minimum, and every means used to impress upon the officers and men the fact that indulgence in spiritous liquors and excesses of any kind are exceptionally dangerous. 7. The sanitary measures to be taken in case of the outbreak of epidemic have already been provided for by the Surgeon-General of the Army, and it is useless to recapitulate.

Hospitals.

A new hospital for consumptives, on the cottage plan, is being talked of for Baltimore, Md . . The St. Elizabeth Hospital, Danville, Ill., reports 383 patients treated during the past year, only 14 of whom died, and 5 of these were in a dying condition when admitted . . Mercy Hospital, Des Moines, Iowa, reports that accommodations have been increased from 50 to 125 patients. The percentage of deaths for the year 1898, of the cases treated, was 4.12 . . The Children's Free Hospital, Detroit, expects to receive $75,000 from the estate of the late Hiram Walker . . To St. Joseph Hospital, Tacoma, Wash., a new addition has been erected at a cost of $21,000, and dedicated January 15. . . St. Joseph Hospital, Denver, is to receive a legacy from the estate of the late Mrs. Eliza Garner. . . Middlesex Hospital, Middletown, Conn., will hereafter be known as the Middlesex County Hospital, and is to receive $1000 from Dr. H. Scovil . . The Hospital for Women and Children, Newark, N. J., has received $1000 from the late Dr. James G. Barnett . . Norwegian Lutheran Tabitha Hospital, Chicago, gave a charity ball for the equipment of the surgical department of that institution, February 1 . . A concert for the benefit of the Passavant Memorial Hospital, Chicago, was given January 26, and it is believed will net $1000 to the Hospital.

New Orleans.

Medical Department Tulane University of Louisiana.—During the present session another instructor has been added to the teaching force. Dr. Hampden S. Lewis as demonstrator of obstetrics, teaches students in the lying-in wards of the Charity Hospital, besides making demonstrations with the manikin. Dr. George S. Bell has been appointed to fill the position of instructor in physical culture, made vacant by the above appointment of Dr. Lewis.

Baltimore.

Medico-Chirurgical Faculty of Maryland.—A circular has been issued to the profession in this State, calling attention to the approaching centennial anniversary of the "Faculty," the most important in the medical history of the State during the present century. The following is the order of arrangements at present proposed (subject to modification): Tuesday evening, April 25, president's address and reception by the Faculty; Wednesday evening, address of the orator, Prof. W. W. Keen of Philadelphia, after which there will be private receptions; Thursday evening, the annual dinner. At the scientific meetings, 3 to 5 P.M., it is proposed to invite prominent members of the profession from outside the State to read papers. From 10 to 2 daily there will be demonstrations, etc., at the hospitals and schools. It is proposed to have a loan collection of portraits and of relics of interest to the profession. The Medico-Chirurgical Faculty of Maryland was founded with 101 physi-

cians, the leading men of the day, from all the counties of the State, as charter members. The Society has its own building, a valuable collection of books, portraits and curios; a hundred journals are taken regularly. The Frick Fund alone added 342 volumes last year, chiefly new books and valuable reports in English, French and German; 3280 readers visited the rooms during 1898.

JOHNS HOPKINS MEDICAL SCHOOL.—There are thirty-one young women enrolled in this medical school. The new physiologic and pharmacologic building of the university has been fitted up and occupied. The anatomic bulding will now be available exclusively for the uses for which it was originally intended.

DR. T. HAYWARD HAYS, after graduating at the University of Maryland, left Baltimore fourteen years ago as a missionary of the Presbyterian Church, for Siam. At Bangkok, he assumed office under the Siamese Government, organized a hospital and medical university and finally became the royal physician. He now returns to spend a year in his native country. In 1894 he received from the king of Siam the Order of the Crown of Siam and also has been made the Surgeon-Major of the Siamese Navy. The success of Dr. Hays shows what may be in store for talented young graduates in the great East, just arousing from its lethargy.

PROF. JULIAN J. CHISHOLM, the well-known oculist, who retired from practice eight months ago, will hereafter divide his time between his former home, Charleston, his son's home here (Dr. Francis M. Chisholm), and some Northern health resort.

DR. JAMES F. MCSHANE, late health commissioner of Baltimore, who was sued by the city for embezzling funds paid into his hands for the care of apparatus at Spring Grove Asylum, while in office, was acquitted.

Washington.

QUARANTINE OFFICER APPOINTED.—Dr. Arthur Snowden has been appointed quarantine officer for the ports of Washington, D. C., and Alexandria, Va., under the Marine-Hospital Service. Dr. Snowden held this position prior to his service in the army of Cuba and Porto Rice.

TO INVESTIGATE THE WASHINGTON ASYLUM.—Senator Gallanger has introduced in the Senate a resolution, which was promptly passed, directing the Committee on the District of Columbia to make a careful investigation of the Washington Asylum, with a view of ascertaining whether or not the accommodations now furnished are adequate for the proper care of the inmates of that institution. He stated that he was reliably informed that there are at present 826 persons in all the departments, and that in the male workhouse there are 286 bunks and 348 inmates, and that the institution is so crowded that they are occupying the hospital dining-room at night for sleeping space for patients.

THE PUBLIC TELEPHONE AND CONTAGIOUS DISEASES.—It is quite pertinent for the profession to determine whether or not the use of the public telephone is a factor in spreading contagious diseases. The question has already been raised in the public press, and is receiving no small consideration. When we consider the fact that the telephone, in drug stores particularly, is used largely to transmit messages to physicians, and that the sender of the messages must necessarily, in many instances, come more or less in contact with persons and places infected by disease, and in many instances be themselves in the early stage of infectious disease, it is quite probable that both the receiver and transmitter of the telephone would become a receptacle for various germs. The moist breath of patients suffering from tuberculosis, scarlet fever, diphtheria, grip and other diseases, would be condensed in the mouthpiece or transmitter, and there drying, subsequently be inhaled by others. The ear-piece or receiver is touched by hands infected with almost everything, and applied to the ear of a more or less infected public, and is in turn handled by the washed and combed gentry and applied to the healthy ear. If parasitic skin diseases are not thus transmitted and clean hands infected, an exception to the generally recognized rule must be noted. This will open a very interesting field for bacteriologic research, and may result in bringing about what is heretofore unknown—the washing and cleansing of the instrument and supervision of its promiscuous use.

St. Joseph, Mo.

DR. DANIEL MORTON has been appointed county physician, and Dr. J. F. Cleaves, county jail physician.

NEW MANAGEMENT.—The hospital of Ensworth Medical College has been placed under the management of the Board of Deaconesses of the Methodist Church, to be maintained as a public Protestant institution.

THE FACULTY OF CENTRAL MEDICAL COLLEGE has added a large amphitheater as a wing to St. Joseph Hospital. All clinical classes will be conducted there, the facilities at the college building being inadequate.

DR. J. W. HEDDENS has gone to Philadelphia to take a private course in abdominal surgery with Jos. Price, after which he goes to New York to study gynecology.

DR. J. H. FLYNN has removed to Leona, Kan.

QUACKERY.—A united effort is being made by the local physicians, endorsed by the St. Joseph Medical Society, to rid the city of advertising quacks, under the penalty of prosecution A similar movement has resulted at Cameron, Maryville Sedalia and Kansas City.

SUIT.—A peculiar suit for $10,000 damages for malpractice against Dr. J. P. Kirschner, mayor of the city, was tried this week. The plaintiff, a young woman, ten years ago, while romping, gouged a shoe buttoner into her eye, caught up the inferior rectus muscle and tore it loose from its posterior attachment. When she called on the Doctor the eye was badly inflamed, the muscle protruding over the lid. Realizing the futility of attempting reparation, the muscle was cut off. As a result of the contusion vision was somewhat impaired, and the loss of the muscle left the eye turned up. A number of eye specialists were called to testify. Their opinions, without exception, were to the effect that Dr. Kirschner had done the best thing for the patient, and this fact, coupled with the testimony of the woman, that the accident had been caused by herself resulted in the case being *nolle prossed*.

DR. J. A. FRENCH last week removed from a woman a pessary which had been retained about the os uteri for five years. When removed the instrument was deeply covered with a calcareous deposit.

FEBRUARY 1, Drs. C. H. Wallace, E. S. Garner, B. Pitts, J. B. Reynolds and F. P. Cronkite, will take up their quarters in the Ring Hill Building, and Dr. Charles G. Guger will enter the office of Dr. Jacob Guger as colleague, in place of A. J. Beel, whose relations as such have terminated.

Philadelphia.

DR. H. H. BROWN of the United States Army has been visiting relatives and friends in the city. Dr. Brown is now stationed at Fort Mott.

Dr. GUY HINSDALE has been elected secretary of the Philadelphia Club for the ensuing year.

DR. WILLIAM DOWNS.—Last week the resident physicians of the Pennsylvania Hospital tendered a farewell dinner to Dr. Downs.

ANNUAL BANQUET.—The annual banquet of the Judson Daland Medical Society (Univ. Pa.) was held last week at the Hotel Bellevue. Dr. Horatio C. Wood acted as toastmaster. Dr. Judson Daland spoke on "Medical Societies," and Dr. James Tyson on "The University."

FLOATING DISINFECTING PLANT.—The fumigating boat, *Protector*, which was stationed at Montauk Point during the summer and did such excellent work, is to be taken to the city of

Havana. This vessel is the first one of its kind ever built, and it is stated that the Government is so well pleased with its work that another contract has been made along similar lines.

Medico-Chirurgical College Correction.—In the Journal of January 21 (p. 152) we stated that this institution had created a chair of military and naval surgery. We regret that we were misinformed, but no such course is contemplated. This institution is, however, to have a special quiz course for the preparation of candidates for the medical corps of the U. S. Army, Navy, etc.

Philadelphia Medical Corps.—At a recent meeting of the Philadelphia Medical Corps, the following officers were elected: President, Frank M. Riter; secretary, Green R. Hulsizer; vice-president, William P. Zeigler; treasurer, L. Wessels: medical director, Thomas H. Andrews; commander, Dr. Hulsizer.

Tuberculosis Among Cattle.—At the last meeting of the State Live Stock Sanitary Board, held at Harrisburg, January 24, Dr. Leonard Pearson, State Veterinarian, submitted a report regarding the work of the Board during the past year. He also read a paper on "The Present Status of the Struggle Against Tuberculosis," in which he stated that during the past summer he had spent some time in Denmark studying the system of prevention as practiced in that country, which is considered the best in the world. In Pennsylvania the method has been modified after that of Denmark. In the latter country, infected cattle are not killed, but are isolated in such a way that they will not infect other animals. Since June of last year 361 herds were tested for tuberculosis, including 4900 head of cattle. Of these, 611 were condemned. The appraisement of cattle during the year was $12,693. One of the proposed changes in the Board consists in placing the authority for the shooting of rabid dogs in the country districts in the hands of the Board, so that it will not interfere with the authority of mayors and burgesses, who now have jurisdiction in these cases. Of the State Board of Agriculture, of which this Board is a part, the following have been elected: State veterinarian, Leonard Pearson; chemist, Dr. William Frear, State College; microscopist and hygienist, Dr. Henry Leffman, Philadelphia.

Annual Report of Medical Inspector.—Medical Inspector I. Howard Taylor has recently submitted his annual report to the Board of Health of this city. The report states that typhoid fever cases reported in 1898 more than doubled those of the preceding year. The soldier cases are included in making up the total cases. Excluding those (1348) we have 4749 as the total city cases. During the year, 4154 cases of diphtheria were reported, 261 cases of membraneous croup, 1900 of scarlet fever, 6097 of typhoid fever and 7 cases of smallpox. There was a decrease of 877 cases of diphtheria, 113 of membranous croup, 1653 of scarlet fever, and an increase of 3103 cases of typhoid fever. There were 998 deaths from diphtheria (23 per cent.); 156 deaths from membranous croup (59 per cent.); 114 from scarlet fever (5 per cent.); 634 from typhoid fever (14 per cent.), and 2590 deaths from consumption. The condition of every schoolhouse in the city is reported in detail, and proves that many are in a very insanitary condition and ought to be abandoned. The mortality of diphtheria (23 per cent.) is especially interesting and only goes to show that mortality statistics of cities prove nothing regarding the beneficial effects of antitoxin, for various reasons.

Recommendation for Leper Hospital.—Owing to the fact that from time to time cases of leprosy are reported in various parts of this country, the Board of Health have recently passed the following resolution: "Resolved, that the Congress of the United States be respectfully memorialized to make provision for the proper care and treatment, at some central point, of all cases of leprosy now existing, or which may hereafter occur in the United States." The two cases of leprosy now at the Municipal Hospital are being closely watched by Drs. Jay F. Schamberg and W. M. Welch.

Students and Municipal Hospital.—There are usually about one hundred cases of diphtheria and many cases of scarlet fever present in this institution, and believing that ultimate good would result to the student if permitted to receive bedside training in these diseases, the County Medical Society has come out in favor of the proposed plan to permit students to visit patients here.

Report of the German Hospital.—The total number of admissions to the Hospital and the Mary J. Drexel Home for Children, during 1898, was 3698, with 153 in the wards Jan. 1, 1899. This is an increase of 720 in the number of cases, as compared with the previous year. The visits to the dispensaries were 40,861. Of the 275 soldiers treated at the Hospital during the year, all but four recovered. The cases treated in the different departments were: Medical, 1580; surgical, 1347; marine, 383; children's, 388. During the year 265 deaths occurred.

Smallpox in Pennsylvania.—Dr. Benjamin Lee, secretary of the State Board of Health, has made the following report: Since the last report, Dec. 31, 1898, smallpox has been reported in Pennsylvania as follows: Charlesville, Bedford County, previously reported existing in two families, 15 cases; Philadelphia, 10 cases; Altoona, 1 case; Bedford, 1 case; Claysburg, 1 case, origin Brumbaugh; Brumbaugh, 2 cases. No deaths have been reported.

Increase in Typhoid Fever.—During one week in January, 1898, over 200 cases of typhoid were reported, but the report of the week ending Jan. 28, 1989, gave 427 new cases, with 40 deaths. The disease is not confined to any certain section of the city, but is widespread, the twenty-ninth ward, however, still remaining the "banner" ward, with 82 cases. Next comes the fifteenth, with 33 cases, the twenty-eighth, with 26 cases, the thirty-eighth with 23 cases, and the nineteenth with 22 cases. The Board of Health is using every effort to stop the plague, but without any seeming effect. The people *will not* boil the water.

Mortality Statistics.—The number of deaths for the week ending January 28 numbered 518, a decrease of 64 over the previous week and an increase of 60 over the corresponding period of last year. Of the total number, 133 occurred in children under the age of five years.

National Relief Commission.—The following is the latest report of the National Relief Commission: Cash previously acknowledged, $80,733.77; interest from Drexel & Co., $175.74; for relief of Pennsylvania soldiers in the field, $386.87; for relief of Tenth Regiment (Pa.) at Manila, $200; value of supplies received to date, $40,345; grand total, cash and supplies, $122,030.17.

Army Mortality and Life Insurance Experiences.—The *Army and Navy Journal* of Dec. 24, 1898, compares the mortality in the U. S. Army during the months May to September, 1898, with the experience of the life insurance companies. It says: The Adjutant-General reports 2565 deaths by disease from the beginning of the war to Sept. 30. In May the whole force was 168,929, in August 274,717. The average at the end of September would be 259,830 for regulars and volunteers together, but the average during the three months of severe sickness was 272,595, or very near the maximum. Probably the average rate of mortality was very close to 95 in 10,000 for five months. We are indebted to Mr. John B. Lunger, managing actuary of the New York Life Insurance Company, for a note upon the average yearly mortality of insured persons who represent a healthy, sound class of persons not subject to unusual conditions of exposure. He takes from the "American Experience Table," constructed by Mr. Sheppard Homans from the experience of the Mutual Life Insurance Company, the figures of mortality from the age of 20, when it is 78 persons yearly in 10,000, to the age of 30, when it is 84 per 10,000. The average of the eleven years of just those ages which are most commonly found in a newly recruited army, is 80.9 per 10,000. The mortality in the Army was therefore two and a half times as great as in the insured lists, but the five months covered by the Army figures included about three months of more or less violent epidemic, which is a larger proportion than the insured would have in any year. This comparison with the rate of mortality among insured lives is the most trying that could be made and it bears

out the contention, which the *Army and Navy Journal* has maintained invariably, that the medical service of the Army was conducted with great ability and skill. Remembering that nearly 50,000 soldiers were sent to tropical and sub-tropical countries and obliged to endure field exposure during summer months, this record deserves to receive the most honorable recognition.

THE PUBLIC SERVICE.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to January 26, 1899.

To the Philippine Islands: Lieut.-Col. Alfred A. Woodhull, deputy surgeon-general, from duty as commanding officer of the Josiah Simpson General Hospital, Va., via Washington, D.C., Denver, Colo., and San Francisco, Cal., to Manila, as chief surgeon, Department of the Pacific. Acting Asst.-Surgeons Louis W. Bishop and Gilbert I. Cullen to report at New York City to Major Alfred E. Bradley, surgeon, U. S. A., in command of the Hospital Ship *Relief*, for transportation to Manila and service in that department.

From the Philippine Islands: Lieut.-Col. Lippincott, deputy surgeon-general, on being relieved by Lieut.-Col. Woodhull, to proceed to Denver, Colo., as chief surgeon of the Department of the Colorado. Major Charles E. Woodruff, brigade surgeon, Vols., to report to the Commanding General, Department of California.

To Cuba: To report at Havana to the Commanding General, Division of Cuba, Major W. Fitzhugh Carter, surgeon, U. S. A., from Huntsville, Ala., and Acting Asst.-Surgeon Madden W. Hamilton from Washington, D. C. To duty at Puerto Principe: Major Robert Burns, brigade surgeon, Vols., from Albany, Ga.

To Porto Rico: To report to the Commanding General at San Juan, via New York City, Acting Asst.-Surgeons Charles G. Eicher from Pittsburg, Pa.; Irvin E. Bennett and R. E. Caldwell, from duty at Camp Forse, Huntsville, Ala.; H. A. Eberle from Savannah, Ga., and Harold W. Cowper from duty at Columbus Barracks, Ohio.

To duty with troops at home camps: To the Second Army Corps at Anniston, Ala., Majors William J. Kernachan and Henry H. Lee, brigade surgeons, Vols., from Huntsville, Ala. To Chickamauga Park, Ga., Acting Asst.-Surgeon Edward S. Grigsby.

To duty at Posts: To Willets' Point, N.Y., Lieut.-Col. Henry S. Turrill, chief surgeon, Vols., from his present duties at Huntsville, Ala. To Fort Logan, Colo., Major Edwin F. Gardner, surgeon, U. S. A., from the Josiah Simpson General Hospital, Va. To Plattsburg Barracks, N. Y., Capt. Henry C. Fisher, asst.-surgeon, U. S. A., on expiration of his sick leave. To Fort Clark, Texas, with the Tenth U. S. Cavalry from Huntsville, Ala.; Major Henry D. Thompson, brigade surgeon, Vols., and Acting Asst.-Surgeon A. M. Brown. To Washington, D. C., as attending surgeon, Major William R. Hall, from the command of General Hospital, Fort Thomas, Ky. To Minneapolis, Minn., as examiner of recruits, acting asst.-surgeon David T. McKinney.

To General Hospitals: To the Josiah Simpson Hospital, Va., as commanding officer, from duty in command of the Railway Hospital Train, Major Charles Richard, surgeon, U. S. A.; Major Charles M. Gandy, brigade surgeon, Vols., on being relieved from his present duties. To the General Hospital, Fort Myer, Va., Major James D. Glennan, brigade surgeon, Vols., from duty at Columbus, Ga.

To special duty: Lieut.-Col. Charles Smart, deputy surgeon-general, U. S. A., to New York City, Feb. 15, 1899, as a member of a board to examine, test and report on emergency rations,

Leave granted or extended: Acting Asst.-Surgeon C. L. G. Anderson.

Sick leave granted or extended: Capt. Henry C. Fisher, asst.-surgeon U.S.A., Lieut. Geo. H. Jones, asst.-surgeon 10th Ohio Infantry, and Acting Asst.-Surgeon Wm. E. West.

Honorably discharged, the following officers of volunteers: Lieut.-Col. Henry S. Turrill, chief surgeon Vols. (Major U.S.A.); Major Geo. E. Bushnell, chief surgeon Vols. (Major U.S.A.), to take effect Jan. 23, 1899; Majors H. P. Birmingham, March 22, Marlborough C. Wyeth, February 22, E. C. Carter, February 22, Peter R. Egan, March 22, Henry S. T. Harris, February 22, Chas. E. Woodruff, March 22, and Chas. F. Mason, March 22, all majors and brigade surgeons Vols. (captains and asst.-surgeons U.S.A.), Majors Chas. M. Drake, John P. Dodge, Chas. R. Parke, John E. Woodbridge, David C. Peyton, all to take effect Feb. 22, 1899, and Majors John J. Archinard and Geo. Groff, March 22, 1899, all brigade surgeons Vols. Also Capt. J. G. Cullen, asst.-surgeon 1st Ohio Infantry, to take effect Jan. 22, 1899.

Wholly retired: Capt. Benj. Munday, asst.-surgeon U.S.A., he having been found by an Army retiring board incapacitated for active service on account of disability which is not the result of any incident of the service.

Contracts annulled: Acting Asst.-Surgeons Howard Switzer and Jas. W. Madara of Lexington, Ky.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending Jan. 28, 1899.

Medical Inspector D. Dickinson, detached from the "Philadelphia" and from duty as fleet surgeon of the Pacific station. January 20.

Asst.-Surgeon G. F. Freeman, detached from the "Arethusa" and ordered to temporary duty on the "Vermont. January 21.

Surgeon H. G. Beyer, detached from the "Amphitrite" and ordered to the "Wabash," January 7. January 24.

Surgeon J. M. Edgar, detached from the "Cincinnati" and ordered to the "Richmond."

Asst.-Surgeon R. K. McClanahan, detached from the "Southery," when put out of commission, and ordered to the "Richmond."

Surgeon H. L. Law, retired, detached from the "Wabash" and ordered home.

Asst.-Surgeon J. G. Field, retired, detached from the "Richmond" and ordered home.

Asst.-Surgeon Edward G. Parker, appointed Jan. 10, 1899. January 25.

P. A. Surgeon L. L. von Wedekind, detached from the naval academy and ordered to the Asiatic station via the "Solace."

Asst.-Surgeon G. N. Angeny, detached from the naval hospital, Chelsea, Mass., and ordered to the "Indiana."

Asst.-Surgeon R. C. Holcomb, order of January 19, detaching from the naval academy and ordering to the Washington navy yard, revoked.

Asst.-Surgeon H. A. Dunn, detached from the "Cincinnati" when put out of commission, and ordered to the naval hospital, Chelsea, Mass.

Surgeon J. W. Ross, retired, ordered to report to the War Department in connection with one of the hospitals to be established at Havana, Cuba.

Medical Director C. J. Cleborne, detached from duty in charge of the naval hospital, Norfolk, Va., and ordered to the naval hospital, Philadelphia, Pa. January 26.

Medical Inspector N. M. Ferebee, ordered to the naval hospital, Norfolk, Va.

Surgeon D. N. Bertelotte, detached from the "Vermont" and ordered to duty as member of the medical examining board, Washington, D. C.

Surgeon L. W. Curtis, ordered to the "Vermont."

Medical Director G. H. Cooke, retired, detached from naval hospital, Philadelphia, Pa., and ordered home.

Medical Director D. McMurtrie, retired, detached from duty as president of the medical examining board, Washington, D. C., and ordered home.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended Jan. 26, 1899.

Surgeon H. R. Carter, to report at bureau preparatory to detail for temporary duty in Cuba. Jan. 23, 1899.

P. A. Surgeon W. J. Pettus, to proceed to Portsmouth, Va., for special temporary duty. Jan. 26, 1899.

P. A Surgeon M. J. Rosenau, to proceed to Delaware Breakwater quarantine for temporary duty. Jan. 21, 1899.

CHANGE OF ADDRESS.

Bishop, H. M., 323 to 338 9th Street, Brooklyn, N. Y.
Collie, J. A., Williams Bay, Wis., to 4306 Forestville Avenue, Chicago.
Egleston, J. C., Topeka, Kas., to 440 New Ridge Bldg., Kansas City, Mo.
Heflebower, R. C., Groton Bldg., to Berkshire Bldg., Cincinnati, Ohio.
King, S. H., Naragansett Pier, R. I., to 1529 Bolton Street, Baltimore.
Kern, A., 3745 Langly Avenue to Michael Reese Hospital, Chicago.
McCann, D. B., Sandcoalee, Mont., to Circle City, Alaska.
Mitchell, E. R., County Hospital to McPhee Blk., Denver, Colo.
Mowry, C., 103 Aborn Street to 80 State Street, Providence, R. I.
Moore, H. C., Beeville to Halletsville, Texas.
Pampel, B. L., Omaha, Neb., to Livingston, Mont.
Rodenhius, E., La Fayette to Quincy, Ind.
Rudis-Jicinsky, J., Crete, Neb., to Cedar Rapids, Ia.
Sturver, E. Rawlins, Wyo., to Fort Collins, Colo.
Spearman, W. C., Texarkana, Ark., to Texarkana, Texas.
Van Duyn, A. C., 2950 Indiana to 3010 Prairie Avenue, Chicago.
Welsh, D. E., 79 Monroe Street to 57 Wonderly Blk., Grand Rapids Mich.
Wandless, H. M., 39 W. 36th to 45 W. 32d Street, New York City.
York, F. A., Denver, Colo., to Trinity, Texas.

LETTERS RECEIVED.

Ambrose, O. A., (2) St. Louis, Mo.; Allen, C. L., Washington, D.C.; Allen & Hanburys Ltd., London, Eng.

Brunson, R., Hot Springs, Ark.; Bynum, J. C., Stewartsville, Mo.; Baker, J. C., Warrens, Wis.; Boyles, J. M., Flora, Ill.; Brack, G. S., New York City; Barnes, F. H., New York City; Bishop Publishing Co., New York City; Beck, C., New York City; Bastic, W. C., Chattanooga, Tenn.; Babcock, L. C., Philadelphia, Pa.

Cale, G. W., Springfield, Mo.; Calcium King Light Co., The, New York City; Chicago Tribune, The Chicago; Cragin, E. B., New York City; Chicago Medical Book Co., Chicago; Crofton, A. C., Los Angeles, Cal.; Carlton, Jas., Chicago; Cincinnati Sanitarium, College Hill, Ohio.

Dolz, William, Gibara, Cuba; Deutsch, Erno, Budapest, Hungary; Dawbarn, R. H. M., New York City; Davis, N. S. Jr., Chicago; Durham, C. E., Galveston, Texas; David, E. L., (2) Louisville, Ky.

Egbert, Seneca, Philadelphia, Pa.

Fougera, E. & Co., New York City.

Grafe, F. A., Cincinnati, Ohio; Gould, Geo. M., Philadelphia, Pa.; Gamble, W. E., Chicago; Goss, O. W., Lakeport, N. H.; Gersten, A. G., New York City; Garrigues, H. J., New York City.

Harriman, W. E., Ames, Iowa; Hous, G. W., Clayton, Ohio; Hammond, J. L., Chicago; Happel, T. J., Trenton, Tenn.; Heitzmann, L., New York City; Horwitz, S., Peoria, Ill; Horlick's Food Co., Racine, Wis.; Hogue, G. I, Chicago; Hagan, A. U., Buffalo, N. Y.; Halstead, A. E., Chicago.

Instant Cut Off Co., Port Huron, Mich.

Johnson, W. J., East Troy, Wis.; Jeffrey, J., Chicago.

Knox, J. W. T., Detroit, Mich.; Kny-Scheerer Co., The, New York City; Kern, A., Chicago; Kohlmann, W., New Orleans, La.; Kiernan, J. G., Chicago; Koechl, Victor & Co., New York City; Kelley, J. S., Syracuse, N. Y.; Kempsen & Co., J. F., (3) New York City.

Latta, S.W., Trenton, N. J.; Lea Bros. & Co., Philadelphia, Pa.; Lambert Pharmacal Co., St. Louis, Mo.

Myer, O. A., Louisville, Ky.; Mayo, N., Lowell, Ky.; Miller, M., Newton, Kas.; McVey, W. E., Topeka, Mas.; Mogk, W. A., Ann Arbor, Mich.; Merrick, M. B., Passaic, N. J.; Marchand, Chas., New York City; Mayo, H. N., De La Mar, Nevada; McArthur Hypophosphite Co., Ansonia, Conn.; Morgan, J. F., Jackson, Ohio; Murray, R. D., Mobile Ala.; Maltine Co., The Brooklyn, N. Y.; Muckle Mfg. Co., H. A., St. Paul, Minn.; McCreery, S. W., Westford, Mass.; Munday, B. Columbia, Mo.

Nusum, Geo., Honey Creek, Iowa.

Oman, E. S., (2) Columbus, Ohio; Osborn, B. D., Woldo, Ohio.

Payne, H. O., Leighton, Iowa; Pantagraph Ptg. & Sta. Co., Bloomington, Ill.; Peterson, P. Hyrup, Laramie, Wyo.; Parke, Davis & Co., Detroit, Mich.; Pilling, Geo. P. & Son, Philadelphia, Pa.; Plummer, H. E. Des Moines, Iowa; Parker, E. W., Gallipolis, Ohio; Preston, G. J., Baltimore.

Rodenhuis, E., Quincy, Ind.; Royce, C. H., San Francisco, Cal.; Riley, H. Lee, St. Louis, Mo.; Rutherford, C. W., Indianapolis, Ind.; Reed, G. D., (2) Topeka, Kans.

Seeley, I. B., Chicago; Sites, J. McKee, Martinsburg, W. Va.; Strader, Geo. L., Omaha, Neb.; Saunders, W. B., Philadelphia, Pa.; Stechert, Geo. E., New York City; Simplex Lamp Co., Brooklyn, N. Y.; Shrady, Jno. New York City; Stillson, H., Seattle, Wash.; Storie, J. G., Elk Park, N. C.; Smith, H. M., Vincennes, Ind.; Stephensen, A.A., Chicago; Sherman, A. W., Burlington, Iowa.

Turnbull, Lawrence, Baltimore, Md.; Tyree, J. S., Washington, D. C.; Teeble, M. L., Grove, Mich.; Truscott Boat Mfg. Co, (2) St. Joseph, Mich.

Verpoorten, M. H., Laramie, Wyo.; Vedder, W. D. Mansfield, Pa.; Veranes, T., Santiago de Cuba.

Whitcher, F. C., Manchester, N. H.; Wurdemann, H. V., (2) Milwaukee, Wis.; Woldert, E. A., Philadelphia, Pa.; Wiener Klinischen Rundschau, Vienna Austria; Walker, O. D., Keokuk, Iowa; Walton, P. C., New York City; Widmer, W. A., Philadelphia, Pa.; Wherry, J. W., Omaha, Neb.; Waters, J. M., Bozeman, Mont.; Wheeler, Oaxaca, Mexico; Wilkins, J. G., Atlanta, Ga.; Whitney, C. R., Fonda, Iowa; Waite & Bartlett Mfg. Co., New York City; White Co., F. B., Chicago; Wyeth John & Bro., Philadelphia, Pa.; Welch, S. A., Providence, R. I.

Xenides, K. P., Angora, Turkey.